

**1957 STUDY OF GROUP SURGICAL  
EXPENSE INSURANCE CLAIMS**

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**I**NSURANCE of doctors' charges for surgical and obstetrical procedures is the second most widely held form of health insurance in the United States. As of the end of 1957, it is estimated that about 109,000,000 persons were covered for this type of protection as against 123,000,000 with some form of hospital expense insurance. These benefits are provided in a variety of ways, including group and individual insurance policies, Blue Cross and Blue Shield contracts, and independent plans.

Group surgical expense insurance for employees and their dependents underwritten by insurance companies was first introduced about 1936. By the end of 1957, coverage had grown to the point where 50,000,000 persons were covered through group policies written by some 200 companies.

The reporting of intercompany experience with group surgical expense benefits by the Group Morbidity Committee of the Society and its predecessor organization began in 1948. The regular reports published annually have shown exposed to risk, dollars of claims incurred, and the annual claim costs derivable therefrom for the schedules of benefits in common use. To produce information concerning average benefit amounts, the annual frequency of surgical claims, the relative proportions in which the different types of surgical procedures occur and the amount of and variation in doctors' charges for surgery performed, special studies based on a sample of actual surgical claims must be undertaken from time to time. The first such study, to be referred to herein as the 1947 Study, was published in May 1948 (*TASA XLIX*, 142). Since then, group surgical expense insurance has increased five-fold and there have been extensive changes in medical practice. This intercompany study, which is generally similar to the previous one, is intended to produce up-to-date information on these other important aspects of group surgical expense experience.

The results of the study are presented in the following sections:

- I. Group Surgical Expense Insurance
- II. Conduct of the Study
- III. Annual Frequencies
- IV. Relative Frequencies of Surgical Claims
- V. Multiple Procedure Claims
- VI. Proportion of Bed-Patient, Out-Patient, and Out-of-Hospital Claims
- VII. Obstetrical Procedures

## VIII. Doctors' Charges

## IX. Dispersion of Doctors' Charges

## X. Geographical Variations in Doctors' Charges

## XI. Variations by Age

## Appendix. 1957 Schedule of Relative Values of Surgical Procedures

To afford the membership greater opportunity to review the results and comment upon them, this study is presented in the form of a paper rather than as a committee report. The use of an Appendix is intended to make it clear that the conclusions reached therein involved the judgment of individuals as against the consensus of the Group Mortality and Morbidity Committees.

While the interpretation of the experience presented in this paper is primarily the responsibility of the author, the planning and execution of this study was brought about with the cooperation of the Group Mortality and Morbidity Committees and the contributing companies whose valuable assistance is greatly appreciated. Thanks also are due Messrs. Burnett A. Halstead and Richard H. Hoffman who carried out much of this extensive analysis.

*I. Group Surgical Expense Insurance*

Group surgical expense insurance is provided by means of a single master contract issued usually to an employer to insure the group of his employees and their wives or dependent husbands and unmarried children. Generally, children are covered from 14 days of age to age 19, but under an increasing number of contracts benefits apply from birth and may continue beyond age 19 to, say, age 23. Contracts may also be issued to a labor union to cover its members and their families or to a trustee acting on behalf of unions and employers, jointly. The insurance provides cash reimbursement for the amount of doctors' surgical and obstetrical charges, subject to a maximum amount of reimbursement which depends on the nature of the operation. The maximum allowances with respect to the various types of operations are set forth in a schedule that appears in the master group policy and in the certificates of coverage furnished to the individual employees. Where the surgeon's charge is in excess of the maximum amount of reimbursement for the operation, the insured employee receives the maximum reimbursement from the insurance company and pays the excess from his own funds. In many instances, at the direction of the insured employee the insurance company's payment is made directly to the doctor who performed the operation. Coverage of obstetrical procedures, while optional, is ordinarily included. The elimination of Workmen's Compensation cases is the only major exclusion from coverage.

The basic surgical schedule sets forth the relative values of the various

surgical procedures in terms of a common unit in a way generally consistent with the skill required to perform the operation and the established pattern of doctors' charges. For example, in the schedule developed using the information relating to doctors' charges contained in the 1947 Study, the scale of relative values runs from 10 units for minor surgical procedures to a maximum value of 200 units for the most complicated operations. Representative examples from the 1947 Relative Value Schedule will be found in appendix Exhibit I.

The amount of surgical insurance is determined by the dollar value assigned to each unit which is varied to suit the needs of the particular policyholder, depending upon such factors as the earnings level of the persons to be insured and the geographical location of the group. The range of unit values in connection with the 1947 Schedule is generally from \$1.00 to \$2.00, with \$1.50 per unit as the most common value. With this unit value, the range of reimbursement is from \$15 to \$300. The schedule with such a dollar range will be referred to herein as the 1947 \$300 Maximum Schedule.

## *II. Conduct of the Study*

The study is based on information abstracted from the individual claim files on a sample of group surgical claims from the calendar year 1955. The following ten companies submitted data:

- The Aetna Life Insurance Company
- The Connecticut General Life Insurance Company
- The Continental Assurance Company
- The Equitable Life Assurance Society
- The John Hancock Mutual Life Insurance Company
- The Metropolitan Life Insurance Company
- The Occidental Life Insurance Company of California
- The Provident Life and Accident Insurance Company
- The Prudential Insurance Company
- The Travelers Insurance Company

These companies underwrite approximately two-thirds of the group surgical expense insurance in the United States; the study is therefore fully representative of such insurance as it is written nationwide.

For the study of frequencies, the claims in a sample should be appropriately selected over a twelve months period in order to eliminate seasonal influences. Several of the companies were unable to choose their claim samples in that way. Consequently, their contributions could be used only in the doctors' charges parts of the study. In all, data in the form of punched cards on 156,669 individual claims were submitted, of which 118,459 from six of the contributing companies were used in the study of frequencies.

In carrying out the study, use was made of the Surgical Procedures Classification and Nomenclature published in 1956 by the Health Insurance Council, 488 Madison Avenue, New York 22, New York. The Nomenclature was intended to achieve some standardization in the classification of surgical procedures by insurance companies as well as to be available for statistical purposes such as this. As printed by the Council, it contains a parallel set of procedure descriptions in lay language designed to help in following the medical terminology of the codes and an alphabetical index cross-referencing the two.

The data are affected by the administrative practices of the contributing companies in several respects. Thus the companies' administrative rules determined when two or more surgical procedures were considered a part of one claim. Furthermore, company practices differ in recognizing and paying claims for certain types of borderline procedures such as the use of X-ray and radium therapy in lieu of surgery and such as occur in dental surgery.

Children are covered from birth and dependent husbands are eligible only under some contracts. While these variations and those described in the preceding paragraph must be kept in mind and while they may be significant at particular points, it is believed that they do not seriously affect the results of the study over-all.

Transfusions were included only if reimbursement was made in whole or in part by the surgical schedule. The benefit amount punched for the study was that paid by the insurance company, whereas the doctor's charge as punched included the insured's entire expense for the procedure. Anesthesia and surgical assistants' charges were eliminated, where possible, except in those cases where the smallness of the surgeon's fee in relation to the maximum reimbursement for the procedure permitted some payment to be made for such charges under the insurance. Then the amount of doctors' charges punched included the anesthesia and surgical assistant charges.

The data were tabulated by using the IBM 705 at a considerable saving in machine time as compared with less powerful equipment. The punched cards were pre-sorted and put on tape which was run through the machine to prepare in a special way for a second run from which virtually all the tabular results of the study were obtained practically in final form.

### *III. Annual Frequencies*

The data contributed for the frequency studies were used first to obtain average benefit amounts corresponding to the 1947 Schedule of Relative Values per male employee, per female employee, and per

dependent family unit. These could then be combined with the annual claim costs derivable from the regular annual studies of the Committee to compute the annual frequencies of surgical claims. The basic relationship is annual frequency equals annual claim cost divided by the average benefit amount.

The average benefit amounts were then applied to the 1956 level of annual surgical claim costs in the Society's 1957 Reports of Mortality and Morbidity Experience (Table 8, page 73, for employees and Table 6, page 70, modified, for dependents). By reason of the way the experience is compiled in the annual studies, the annual claim costs used actually relate to the calendar period approximating April 1955 to April 1956.

The annual frequency for female employees was divided between obstetrical and nonobstetrical claims on the basis of the proportions of such claims respectively in this study. Similarly, the annual frequency of surgical claims per dependent unit was subdivided into wife non-obstetrical, wife obstetrical, and children portions, after eliminating the effect of dependent husband claims.

Frequencies per dependent wife were obtained on the basis that 94% of the dependent units included a wife. For the frequencies per male and female child, it was assumed that there were one or more children in 68% of the dependent units and that the average number of children in such units was 2.2 equally divided between boys and girls. The percentages chosen represent averages of those used by the contributing companies.

The results of this analysis appear in Table A. Unfortunately, similar intercompany frequency figures corresponding to the 1947 Study are not available for comparison. However, annual frequencies from the experience of the Equitable from 1943 to 1948 are shown. It is believed that these are reasonably representative of the level of frequencies of that time.

The striking increase in the frequencies of surgical claims which has taken place since the 1947 Study is apparent. Remembering that those in this study approximate April 1955 to April 1956 experience, recent claim trends suggest that current frequency levels are probably somewhat higher.

Many factors are involved in these changes. Knowledge of the nature of surgical expense insurance and of the availability of the benefits to defray the cost of surgical care has grown. Some companies have broadened their coverage by the recognition of claims for substitute surgical procedures and for procedures performed other than by licensed doctors of medicine, for example oral surgery performed by dentists. In addition, the science of surgery has been improving steadily with

the development of new surgical techniques including wholly new types of operations.

The proportions in which the various surgical and obstetrical procedures occur are dealt with in several of the following sections. The relative frequencies shown there can be appropriately combined with these annual claim frequencies to secure the annual claim frequency for a chosen procedure or group of procedures. However, the results of such a calculation should be used with caution, particularly if a

TABLE A  
ANNUAL FREQUENCY OF SURGICAL CLAIMS

	(1) 1957 Study*	(2) Equitable 1943-48	Ratios (1)/(2)
Per Male Employee.....	.093	.050	186%
Per Female Employee.....	.184	.100	184
Nonobstetrical.....	.125	.....	.....
Obstetrical.....	.059	.....	.....
Per Family Unit.....	.316	.230	137
Wife—Nonobstetrical.....	.094	.150	149
Children.....	.130	.....	.....
Wife—Obstetrical.....	.092	.080	115
Per Dependent Wife.....	.199	.....	.....
Nonobstetrical.....	.101	.....	.....
Obstetrical.....	.098	.....	.....
Per Male Child.....	.104	.....	.....
Per Female Child.....	.068	.....	.....

\* Based on experience approximating April 1955 to April 1956.

selected procedure is to be isolated from all other surgical procedures. For one thing, aside from the matter of purely statistical fluctuation, which must be kept in mind in any case, there is an inherent lack of precision in the process of classifying surgical procedures on the basis of the information reported on claim papers. In addition, the number of claims falling in a given classification might very well depend upon the circumstances surrounding the purpose for which the classification was being made. If, for example, benefits were to be paid for only one surgical procedure or group of procedures, there would be an understandable tendency for more claims to be described in such a way as to come within the chosen categories.

#### *IV. Relative Frequencies of Surgical Claims*

The companies were instructed to code the first or principal surgical procedure for each claim. The full tabulation of these data for each code classification showing the number of claims by type of patient appears in Table P, beginning on page 397. Second or elective procedures in multiple procedure claims are not included here, but are dealt with in the next section.

Table B summarizes the detail of Table P, omitting the material on dependent husbands, and shows the surgical procedures relatively most important in comparison with those described in the 1947 Study. The categories included are those with  $\frac{1}{2}\%$  or more of the claims for any type patient and are arranged in descending order of the percentages in columns (9) and (21).

The first eight categories in the table (benign tumors or cysts, tonsillectomy, skin suturing, fractures, cervical operations, hemorrhoid operations, herniotomy, and appendectomy) account for a large proportion of the claims, 51% of the claims for employees, 64% of all dependent claims and, among dependents, 48% for wives and 75% for children. This is a significantly lesser concentration, however, than appeared in the 1947 Study where the first eight (not all the same as these) included 61% of the claims of employees, 73% of all dependent claims and, among dependents, 59% for wives and 84% for children.

The most substantial reductions in relative frequencies since the 1947 Study are under tonsillectomies and appendectomies for all type patients, and hysterectomies for adult female patients. In the case of tonsillectomies and appendectomies there has been a significant reduction in absolute frequency as well, but not so for hysterectomies. Thus, taking the relative frequency of hysterectomies for female employees of 5.8% in the 1957 Study and applying the nonobstetrical annual frequency of .125 from Table A gives an absolute frequency of .00725. Assuming the proportion of the Equitable 1943-48 annual frequency for female employees accounted for by nonobstetrical claims to be the same as that shown in the 1957 Study and multiplying by the 1947 relative frequency of 8.3% gives a lesser absolute frequency equal to .00564. Similar results may be derived for wives' claims.

Where the relative frequencies have risen, the absolute frequencies have also increased, since the over-all annual frequencies have become greater. Marked increases in relative frequency have occurred with respect to benign tumors and cysts, skin suturing, and endoscopy for all type patients, with respect to cervical operations for adult females and with respect to circumcision for male children. The dramatic rise

TABLE B  
SUMMARY OF RELATIVE FREQUENCIES, OMITTING OBSTETRICAL CLAIMS AND DEPENDENT HUSBAND CLAIMS

PROCEDURE CODE	DESCRIPTION	EMPLOYEE									DEPENDENT											
		Male			Female			Total			Wife			Male Child			Female Child			Total		
		No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study
(1) 930-935, 950-953, 970-973, 916, 335†	Benign tumors or cysts, removal or treatment (excluding branchial, pilonidal or thyroglossal cysts)	4,894	18.6	9.6	1,946	19.6	7.5	6,840	18.8	8.8	3,647	14.4	7.5	868	4.1	2.2	1,044	7.6	2.2	5,559	9.3	4.5
3610, 3684	Tonsillectomy and/or adenoidectomy	717	2.7	11.4	392	3.9	16.7	1,109	3.1	13.3	629	2.5	7.8	5,300	25.2	57.1	5,012	36.3	64.2	10,941	18.2	37.2
550	Accidental laceration of skin structure, suture or repair of	1,962	7.4	2.1	273	2.7	.7	2,235	6.2	1.6	819	3.2	.7	4,648	22.1	2.7	2,174	15.8	1.5	7,641	12.7	1.5
2020-2296	Fractures, open and closed, simple and compound, except skull	1,585	6.0	7.0	489	4.9	3.9	2,074	5.7	5.9	1,232	4.9	3.8	2,756	13.1	11.2	1,474	10.7	7.2	5,462	9.1	6.9
8040-8045	Cervix, operations on (including dilation and curettage)				1,126	11.3	7.9	1,126	3.1	2.9	3,873	15.3	11.4				41	.3	.4	3,914	6.5	5.1
7070-7073, 7076, 7078	Hemorrhoids, operations for	1,775	6.7	9.2	409	4.1	4.0	2,184	6.0	7.3	1,055	4.2	5.2	11	.1		8	.1		1,074	1.8	2.3
6500-6502	Herniotomy, herniorrhaphy, hernioplasty	1,472	5.6	8.4	94	.9	1.2	1,566	4.3	5.7	391	1.5	1.3	866	4.1	3.1	161	1.2	.6	1,418	2.4	1.7
6040	Appendectomy	1,068	4.1	11.4	350	3.5	18.9	1,418	3.9	14.1	630	2.5	11.0	863	4.1	7.9	997	7.2	13.4	2,490	4.1	10.6
158-161†	Cystoscopy, diagnostic or operative	1,097	4.2	2.0	362	3.6	.9	1,459	4.0	1.6	1,019	4.0	1.2	67	.3	.1	146	1.1	.1	1,232	2.1	.6
510-513, 516, 517	Abscesses, not involving internal organs or breasts, incision and drainage	1,128	4.3	2.1	282	2.8	.9	1,410	3.9	1.7	508	2.0	.7	475	2.3	1.1	324	2.3	1.0	1,307	2.2	.9
8080-8083	Hysterectomy				574	5.8	8.3	574	1.6	3.0	2,042	8.1	14.1				2			2,044	3.4	6.2
7520, 7521‡	Circumcision	164	.6	.7				164	.5	.4				1,643	7.8	3.8				1,643	2.7	1.2

† See last paragraph of Section IV.

‡ On children, affected by extent of coverage from birth.



TABLE B—Continued

PROCEDURE CODE	DESCRIPTION	EMPLOYEE									DEPENDENT											
		Male			Female			Total			Wife			Male Child			Female Child			Total		
		No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
3450, 3451†	Impacted tooth, removal of one or more than one	377	1.4	.5	245	2.5	.9	622	1.7	.6	311	1.2	.3	62	.3	.1	79	.6	.2	452	.8	.2
6100, 6120	Cholecystectomy or cholecystotomy	341	1.3	1.6	246	2.5	2.0	587	1.6	1.8	930	3.7	4.3				5			935	1.6	1.9
3212, 3213	Chalazion, single or multiple, excision or curettage	398	1.5	.8	150	1.5	.8	548	1.5	.8	208	.8	.3	40	.2	.1	52	.4	.4	300	.5	.3
936-939, 956-959, 976-979†	Malignant tumors, removal or treatment	456	1.7	.7	73	.7	.2	529	1.5	.5	204	.8	.2	7			10	.1		221	.4	.1
8210-8224	Oviduct and ovary, operations on				278	2.8	2.5	278	.8	.9	836	3.3	2.8				45	.3	.1	881	1.5	1.3
4272-4287	Varicose veins, treatment for	266	1.0	2.3	170	1.7	3.0	436	1.2	2.6	557	2.2	3.8	1			2			560	.9	1.7
580-581	Foreign body, removal of (except from eye or body cavity)	318	1.2	.2	60	.6	.1	378	1.0	.2	144	.6	.2	369	1.8	.5	177	1.3	.2	690	1.1	.3
178-184†	Proctoscopy or sigmoidoscopy, diagnostic or operative	311	1.2	.1	90	.9		401	1.1	.1	180	.7		11	.1		8	.1		199	.3	
7870-7881	Vasectomy or vesiculectomy, unilateral or bilateral	399	1.5	.2				399	1.1	.1				1						1		
1265, 1266	Ostectomy, nail bed or nail fold, partial or complete	276	1.0	.3	93	.9	.2	369	1.0	.3	247	1.0	.1	231	1.1	.3	146	1.1	.2	624	1.0	.2
7700-7703	Prostatectomy	349	1.3	1.9				349	1.0	1.2				1						1		
3628	Nasal septum, submucous resection of	277	1.1	2.1	63	.6	1.0	340	.9	1.7	70	.3	.5	38	.2	.3	17	.1	.2	125	.2	.4
912, 913	Pilonidal cyst or sinus, incision or excision of	280	1.1	1.2	47	.5	.7	327	.9	1.0	57	.2	.1	26	.1	.1	39	.3	.1	122	.2	.1
6400, 6420, 6430	Gastrectomy, gastroenterostomy, gastrostomy	303	1.1	.8	22	.2	.1	325	.9	.6	63	.2	.1	4			4			71	.1	
3040, 3041	Incision of ear drum (myringotomy, tympanotomy, paracentesis tympani)	110	.4	.1	25	.3	.1	135	.4	.1	54	.2	.2	237	1.1	.7	213	1.5	.7	504	.8	.5
110-149	Biopsy, all types	141	.5	.2	122	1.2	.1	263	.7	.2	269	1.1	.2	24	.1	.1	20	.1		313	.5	.1

TABLE B—Continued

PROCEDURE CODE	DESCRIPTION	EMPLOYEE									DEPENDENT											
		Male			Female			Total			Wife			Male Child			Female Child			Total		
		No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study	No. of Claims	%	% in 1947 Study
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
7040-7051	Fissurectomy, fistulectomy	216	.8	1.8	42	.4	.7	258	.7	1.4	93	.4	.8	16	.1		6			115	.2	.4
710-799†	Plastic surgery	123	.5	.3	63	.6	.4	186	.5	.3	96	.4	.2	217	1.0	.3	119	.9	.5	432	.7	.3
370-379	Thyroid gland and goiter, operation on	60	.2	.6	120	1.2	1.5	180	.5	1.0	403	1.6	2.4	6			18	.1	.1	427	.7	1.1
8310-8371	Repair procedures, gynecologic				124	1.2	.8	124	.3	.3	392	1.6	1.6				5			397	.7	.7
3622, 3623	Nasal polyps, removal of one or more, unilateral or bilateral	204	.8	.9	30	.3	.3	234	.6	.7	69	.3	.3				3			79	.1	.1
3252-3255	Foreign body, eye, removal	201	.8	.3	32	.3	.1	233	.6	.2	34	.1		85	.4		37	.3		156	.3	
3272, 3273	Strabismus, unilateral or bilateral, operation for	34	.1	.1	18	.2	.2	52	.1	.1	12		.1	184	.9	.5	177	1.3	.8	373	.6	.4
150-152, 162-164, 166-168	Bronchoscopy, esophagoscopy or gastroscopy, diagnostic or operative	186	.7	.2	31	.3	.1	217	.6	.2	116	.5	.1	40	.2	.2	35	.3	.1	191	.3	.1
3650-3666	Sinuses, operations on	168	.6	.7	36	.4	.3	204	.6	.5	83	.3	.3	26	.1	.1	10	.1	.1	119	.2	.2
6620	Laparotomy	102	.4	.4	89	.9	.5	191	.5	.4	262	1.0	.5	33	.2	.1	29	.2	.1	324	.5	.3
1610-1675	Dislocations, open or closed reduction	156	.6	.6	31	.3	.3	187	.5	.5	84	.3	.2	131	.6	.4	88	.6	.3	303	.5	.3
3250	Extraction of lens	171	.6	.6	16	.2	.1	187	.5	.4	72	.3	.3	9		.1	3		.1	84	.1	.2
2810	Excision of ganglion cyst, abscess, or other lesion of tendon or sheath	96	.4	*	81	.8	*	177	.5	*	128	.5	*	24	.1	*	25	.2	*	177	.3	*
9434	Lumbar puncture	102	.4	.4	30	.3	.1	132	.4	.3	103	.4	.4	105	.5	.3	85	.6	.2	293	.5	.3
1410-1450†	Bursae, operations on	149	.6	.1	25	.3		174	.5	.1	55	.2		15	.1		1			71	.1	
3414†	Alveolectomy	126	.5	*	44	.4	*	170	.5	*	132	.5	*	9		*	8		*	149	.2	*
7604-7606, 7680-7686	Hydrocele, orchidectomy, orchidopexy	168	.6	1.0				168	.5	.6				100	.5	.2				100	.2	.1
8138	Uterus, suspension of, any type				78	.8	1.5	78	.2	.6	268	1.1	2.5				1			269	.4	1.1
330-332	Mastectomy	14	.1	.1	76	.8	.8	90	.2	.3	234	.9	1.2	3		.1	1			238	.4	.6
9430	Laminectomy	120	.5	.4	21	.2	.1	141	.4	.2	100	.4	.2	2			2			104	.2	.1
	All other surgical procedures	3,502	13.3	14.6	965	10.1	9.6	4,467	12.4	12.9	2,552	10.3	11.0	1,469	7.1	6.2	948	6.8	5.0	4,969	8.4	7.9
	Grand Total	26,362	100.0	100.0	9,933	100.0	100.0	36,295	100.0	100.0	25,263	100.0	100.0	21,030	100.0	100.0	13,801	100.0	100.0	60,094	100.0	100.0

\* These procedures were not specifically coded in the 1947 Study.

† See last paragraph of Section IV.

in frequency of benign tumor and cyst removal and of cervical operations reflects at least in part the increasing attention being given to cancer prevention. The added proportion of endoscopy claims accords with the greater importance of diagnostic and preventive medical care today. The apparent rise in child circumcision may be attributed to the gain in coverage of children from birth as against 14 days which was almost universal practice at the time of the 1947 Study.

Table B fails to bring out the increase in the proportion of the rarer complicated operations such as have been developed in the areas of thoracic surgery and neurosurgery. For these, the detailed Table P must be reviewed along with the similar table in the 1947 Study. For example, 68 operations on the heart appear in Table P against none in the 1947 Study.

Differences in company philosophy as to whether or not certain types of claims constitute surgery and are reimbursable affect these results somewhat. One or more of the contributing companies mentioned the following procedures as being considered partially or wholly beyond the scope of their surgical coverage: diagnostic endoscopy (Codes 158, 159, 170, 178); plastic surgery (Codes 710-799); removal of calluses and corns (Codes 930-935); X-ray treatment of tumors and cysts (Codes 950-953, 970-979); injection treatments (Codes 1440, 1450, 7171, 9220, 9460-9461); and dental surgery (Codes 3410-3499).

#### *V. Multiple Procedure Claims*

Generally, companies consider all operations, related or unrelated, which are performed during a single period of disability as part of the same claim, where a period of disability is presumed to end upon the return to active work of an employee or the expiration of 90 days without disability in the case of a dependent. In claims involving more than one procedure, charges for unrelated procedures in different operative fields are usually reimbursed as if each procedure were done separately, sometimes subject to the over-all schedule maximum. On the other hand, operations performed in the same operative field or through the same incision are generally considered as one for the purposes of reimbursement, with the allowance being that appropriate to the procedure calling for the largest amount.

For multiple procedure claims, the first procedure, taken as the major or principal procedure, the second procedure, and the total number of procedures were coded. The compiling company reviewed all such claims for the coding of first and second procedures, and where differences arose, the claims not coded consistently with the majority for a given combination were changed to agree.

The Classification and Nomenclature codes include several classifications which represent more than one procedure under a single code, usually a multiplicity of the same procedure. Claims under those codes are not included in this analysis of multiple procedure claims which is limited to claims involving more than one separately coded procedure.

From Table C it is seen that 12% of all claims include more than one coded procedure and that multiple procedure claims account for 27% of the benefits paid. The table assumes all claims to be reimbursed on the basis of the 1947 \$300 Maximum Schedule. Reimbursement for

TABLE C  
MULTIPLE PROCEDURE CLAIMS IN THE FREQUENCY DATA,  
OMITTING OBSTETRICAL CLAIMS, BY TYPE PATIENT

TYPE PATIENT	AVERAGE REIMBURSEMENT UNDER 1947 \$300 MAXIMUM SCHEDULE		MULTIPLE CLAIMS AS PERCENTAGE OF TOTAL	
	Single Procedure Claims	Multiple Procedure Claims	No.	Amount
Male Employee.....	\$58	\$146	12%	26%
Female Employee.....	62	163	16	34
Total Employees...	\$59	\$152	13%	28%
Wife.....	\$71	\$170	19%	36%
Male Child.....	43	126	5	14
Female Child.....	48	119	4	8
Dependent Husband...	69	157	15	29
Total Dependents..	\$55	\$158	11%	26%
Grand Total.....	\$57	\$156	12%	27%

multiple procedure claims on the average is more than two and one-half times as great as for single procedure claims. The less complicated nature of surgery for children is confirmed by their much smaller proportion of multiple procedure claims.

Table D is a tabulation by type of patient of the number of procedures performed in the course of one claim. Since only the first two procedures were coded, a description of the others is not available. More than half the claims with three or more procedures appear in connection with hemorrhoidectomy, hysterectomy, suspension of uterus, operations on the oviduct and ovary, laparotomy, and cholecystectomy.

Table E is an analysis of the combinations of first and second procedures showing where multiple procedure claims are common and the

TABLE D  
CLAIMS IN FREQUENCY DATA, OMITTING OBSTETRICAL CLAIMS, BY NUMBER OF PROCEDURES

NUMBER OF PROCEDURES	EMPLOYEE CLAIMS						DEPENDENT CLAIMS									
	Male		Female		Total		Wife		Male Child		Female Child		Dependent Husband		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1.....	23,132	87.7%	8,307	83.7%	31,439	86.6%	20,412	80.8%	19,962	94.9%	13,303	96.5%	593	84.9%	54,270	89.3%
2.....	2,575	9.8	1,221	12.3	3,796	10.5	3,592	14.2	942	4.5	458	3.3	87	12.4	5,079	8.4
3.....	491	1.9	291	2.9	782	2.2	909	3.6	99	.5	31	.2	11	1.6	1,050	1.7
4.....	123	.5	84	.8	207	.6	254	1.0	17	.1	5	.....	7	1.0	283	.5
5.....	34	.1	18	.2	52	.1	73	.3	6	.....	3	.....	1	.1	83	.1
6.....	6	.....	8	.1	14	.....	15	.1	3	.....	0	.....	0	.....	18	.....
7.....	1	.....	3	.....	4	.....	7	.....	1	.....	0	.....	0	.....	9	.....
8.....	0	.....	1	.....	1	.....	0	.....	0	.....	0	.....	0	.....	0	.....
9 & over...	0	.....	0	.....	0	.....	1	.....	0	.....	0	.....	0	.....	1	.....
Total..	26,362	100%	9,933	100%	36,295	100%	25,263	100%	21,030	100%	13,801	100%	699	100%	60,793	100%

TABLE E

## SUMMARY OF MULTIPLE PROCEDURE CLAIMS IN THE FREQUENCY DATA, OMITTING OBSTETRICAL CLAIMS

First Procedure Code	Second Procedure Code	Description of Multiple Procedure	No. of Claims, First Procedure	Total Multiple Procedure Claims Associated with First Procedure	Ratio (5) ÷ (4)	No. of Multiple Procedure Claims Accounted for by Description
(1)	(2)	(3)	(4)	(5)	(6)	(7)
150-199	150-199	Combinations of Endoscopy	3,921	453	12%	171
158-161	7808	Cystoscopy with ureteral dilation	2,725	338	12	87
910-918, 930-935, 950-953, 970-973	910-918, 930-935, 950-953, 970-973	Benign tumors or cysts, removal	11,860	331	3	147
		Other General Surgery				1,294
		Total General Surgery	35,553	1,699	5	
		Combinations of Musculoskeletal System Surgery				573
		Combinations of Musculoskeletal System Surgery with other surgery				549
		Total Musculoskeletal System Surgery	11,510	1,122	10	
3450-3451	3414	Impacted teeth & alveolectomy	1,085	81	7	47
3628	0750	Resection of nasal septum and rhinoplasty	480	157	33	39
3650-3666	3622-3628	Sinusotomy & nasal polyp removal or nasal septum submucous resection	329	87	26	36
3684	3040-41	Tonsillectomy & incision of ear drum	11,884	252	2	44
3684	7520-7521	Tonsillectomy & circumcision				83
		Other combinations of Eye, Ear, Mouth, Nose & Throat Surgery				422
		Other combinations of Eye, Ear, Mouth, Nose & Throat Surgery with other surgery				199
		Total Eye, Ear, Mouth, Nose, Throat Surgery	18,924	870	5	

TABLE E—Continued

First Procedure Code	Second Procedure Code	Description of Multiple Procedure	No. of Claims, First Procedure	Total Multiple Procedure Claims Associated with First Procedure	Ratio (5) ÷ (4)	No. of Multiple Procedure Claims Accounted for by Description
(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Combinations of Heart & Blood Vessel Surgery				28
		Combinations of Heart & Blood Vessel Surgery with other surgery				94
		Total Heart & Blood Vessel Surgery	1,223	122	10	
		Combinations of Thoracic Surgery				26
		Combinations of Thoracic Surgery with other surgery				80
		Total Thoracic Surgery	299	106	35	
6040	6030	Appendectomy and division of adhesions	3,930	178	5	33
6040	8010-8370	Appendectomy and gynecologic surgery				49
6100, 6120	6040	Cholecystectomy or cholecystotomy and appendectomy	1,534	457	30	264
6500-6502	7604-06, 7680-81, 7686, 7860-61	Herniotomy, herniorrhaphy or hernioplasty and hydrocele, orchidectomy, orchidopexy, or varicocelelectomy	3,028	563	19	232
6500-6502	6040	Herniotomy & appendectomy				73
6500-6502	7520-7521	Herniotomy & circumcision				47
6620	6010-6770	Laparotomy & other abdominal surgery	522	326	62	171
6620	8010-8370	Laparotomy & gynecologic surgery				106
		Other combinations of abdominal surgery				378
		Other combinations of abdominal surgery with other surgery				558
		Total Abdominal Surgery	10,184	1,911	19	

TABLE E—Continued

First Procedure Code	Second Procedure Code	Description of Multiple Procedure	No. of Claims, First Procedure	Total Multiple Procedure Claims Associated with First Procedure	Ratio (5) ÷ (4)	No. of Multiple Procedure Claims Accounted for by Description
(1)	(2)	(3)	(4)	(5)	(6)	(7)
7050-51	7010	Fistulectomy & abscess, incision & drainage of	285	83	29	40
7070-7078	7040-41	Hemorrhoid operations and fissurectomy	3,308	1,241	38	304
"	0182-0183	" " " sigmoidoscopy				94
"	7030	" " " cryptectomy				92
"	7050-51	" " " fistulectomy				230
"	7090	" " " pectenotomy				47
"	7150	" " " repair of prolapsed rectum				72
"	7180	" " " removal of rectal polyps				77
"	8040-8045	" " " cervical operation				56
		Other combinations of Proctologic Surgery				196
		Other combinations of Proctologic Surgery with other surgery				231
		<b>Total Proctologic Surgery</b>	<b>4,230</b>	<b>1,439</b>	<b>34</b>	
7700-7703	0158-0160	Prostatectomy & cystoscopy	364	194	53	98
7804	0158-0160	Ureterolithotomy & cystoscopy	85	49	58	40
		Other combinations of Urologic Surgery				190
		Other combinations of Urologic Surgery with other surgery				246
		<b>Total Urologic Surgery</b>	<b>3,640</b>	<b>574</b>	<b>16</b>	



TABLE E—Continued

First Procedure Code	Second Procedure Code	Description of Multiple Procedure	No. of Claims, First Procedure	Total Multiple Procedure Claims Associated with First Procedure	Ratio (5) ÷ (4)	No. of Multiple Procedure Claims Accounted for by Description
(1)	(2)	(3)	(4)	(5)	(6)	(7)
8040-45	0110-0141	Cervical operations & biopsy	5,040	471	9	159
8080-8083	0560-0561	Hysterectomy & blood or plasma transfusion	2,618	1,181	45	74
"	6030	" & division of adhesions				50
"	6040	" & appendectomy				480
"	8040-45	" & cervical operations				265
"	8320-71	" & gynecologic repair procedures				116
8138	6040	Uterine displacement, repair, & appendectomy	347	303	87	87
"	8040-45	" " " & cervical operations				77
"	8310-8371	" " " & repair procedures				67
8210-8230	6030	Operations on oviduct & ovary and division of adhesions	1,159	853	74	70
"	6040	" " " " " " appendectomy				414
"	8040-45	" " " " " " cervical operations				166
8310-8371	8040-45	Repair procedures & cervical operations	521	283	54	182
		Other combinations of Gynecologic Surgery				403
		Other combinations of Gynecologic Surgery with other surgery				655
		Total Gynecologic Surgery	10,362	3,265	32	
9430	9450	Laminectomy & Myelography	252	109	43	64
		Other combinations of Neurosurgery				85
		Other combinations of Neurosurgery with other surgery				121
		Total Neurosurgery	1,163	270	23	
		Grand Total	97,088	11,378	12	

combinations of procedures likely to occur. Some multiple procedure claims involve related surgery, for example, in the combination of two different proctologic operations. In other multiple surgery, more than one procedure is performed at the same time or within a short period because the patient has undergone an operation for one condition and advantage is taken of the convenient opportunity to take care of a second. The third category where the same procedure is repeated is generally not reflected in this table because for many of these a single procedure code was available.

Thoracic, proctologic, and gynecologic surgery shows relatively more multiple procedure claims than other types of surgery, about one-third in each instance compared with 12% over-all. General surgery and eye, ear, mouth, nose, and throat surgery are at the other extreme with only 5% reported as multiple procedure claims.

The five most common specific combinations of operations were hysterectomy with appendectomy, 4.2% of all multiple procedures; oviduct and ovary operations with appendectomy, 3.6%; hemorrhoid operations and fissurectomy, 2.7%; operations for removal or cutting into the gall bladder with appendectomy, 2.3%; and hysterectomy with dilation and curettage and other cervical operations, 2.3%. In about one-fifth of the gall bladder, hysterectomy, and oviduct and ovary operations, the appendix was removed at the same time. These appendectomies, since they were not regarded as the first procedure, are not counted in Tables B or P.

In the 1947 Study, multiple procedures were present in 17% of the claims as compared with 12% in this study. Much of this difference is explained by the use in this study of single procedure codes for many of the claims involving repetition of similar operations. This type of claim was coded as a multiple procedure in the 1947 Study. For example, the fact that combinations of cervical operations are coded 8045 instead of as multiple procedures under combinations of codes 8040 to 8044 is largely responsible for the drop in the proportion of multiple procedures with respect to gynecologic surgery from 46% in the 1947 Study to 32% in this study. The different treatment of these combinations largely accounts for the drop from 27% to 18% in multiple procedures for adult females.

#### *VI. Proportion of Bed-Patient, Out-Patient, and Out-of-Hospital Claims*

The contributing companies were asked to report the place where the operation was performed as (a) in a hospital as a bed-patient, (b) in a hospital out-patient department, and (c) out-of-hospital, which usually means at the doctor's office. One company was unable to separate cate-

gories (b) and (c). These two categories were classified as "out-of-hospital" in the 1947 Study.

For each type of patient, Table F shows the average amount of reimbursement for hospital bed-patient, out-patient department and out-of-hospital claims and the relative importance of such claims by number and amount of reimbursement according to the 1947 \$300 Maximum Schedule. What strikes one here is that 42.9% of the claims (12.5% out-patient department and 30.4% out-of-hospital) are for surgery performed other than as a bed-patient in a hospital. The corresponding percentage in the 1947 Study was 18%. A substantial part of the increase in surgical frequencies brought out in Section III is thus attributable to minor procedures done in an out-patient department or the doctor's office. Again, 14.1% as the financial weight of these claims compares with only 6% in the 1947 Study.

Dependent wives have the largest proportion of bed-patient claims with 67.6%, while male employees have the smallest, 49.3%. The proportion of claims performed in a hospital out-patient department is largest for children, 20.3% for males and 15.4% for females, and smallest for adult females, 7%. Out-of-hospital claims are a significantly larger proportion for employees than for dependents, 37.2% as against 26.3%. Throughout, non-bed-patient surgery is considerably less important financially than the numerical proportion of such procedures.

Table G is an analysis of individual procedures showing those where a substantial proportion of the surgery is performed out-of-hospital or in an out-patient department. Skin suturing accounts for 22.4% of all such surgery, superficial benign tumors and sebaceous cysts for 22.0%, and dislocations and fractures for 13.2%. These procedures taken as a group were performed in an out-patient department or out-of-hospital in 81% of the cases.

### *VII. Obstetrical Procedures*

Table H is a tabulation of the obstetrical procedure claims reported by the companies for the frequency part of the study. Because obstetrical benefits are not included in all contracts, these claims cannot be added to the nonobstetrical claims in Tables B and P without adjustment, if over-all relative frequencies are desired. In that event, adjustment for the proportion of policies without obstetrical benefits must be made by multiplying the claims in Table H by 1.275 for female employees and 1.392 for dependent wives.

Normal deliveries comprise 87.5% of all obstetrical procedures and miscarriages 8.1%. This compares with 90.5% and 5.3% respectively for the 1947 Study. The proportion of claims for Caesarean section and

**TABLE F**  
**PROPORTION OF BED-PATIENT, OUT-PATIENT DEPARTMENT AND OUT-OF-HOSPITAL CLAIMS**  
**IN THE FREQUENCY DATA, OMITTING OBSTETRICAL CLAIMS, BY TYPE PATIENT**

TYPE PATIENT	AVERAGE REIMBURSEMENT UNDER 1947 \$300 MAXIMUM SCHEDULE				PERCENTAGES OF TOTAL					
	All Claims	Hosp. Bed- Patient	Out- Patient Depart- ment	Out-of- Hospital	Hosp. Bed-Patient		Out-Patient Department		Out-of-Hospital	
					No.	Reimburse- ment	No.	Reimburse- ment	No.	Reimburse- ment
Male Employee.....	\$70	\$117	\$24	\$23	49.3%	83.1%	12.0%	4.2%	38.7%	12.7%
Female Employee.....	78	114	25	23	59.9	88.1	7.0	2.2	33.1	9.7
Total Employees.....	\$72	\$116	\$24	\$23	52.2%	84.6%	10.6%	3.6%	37.2%	11.8%
Wife.....	\$91	\$123	\$26	\$24	67.6%	91.2%	7.2%	2.1%	25.2%	6.7%
Male Child.....	46	71	21	20	51.0	78.5	20.3	9.4	28.7	12.1
Female Child.....	50	69	23	20	59.7	82.8	15.4	7.0	24.9	10.2
Dependent Husband.....	83	121	24	21	62.3	90.2	9.3	2.7	28.4	7.1
Total Dependents.....	\$66	\$ 96	\$23	\$22	60.1%	86.7%	13.6%	4.7%	26.3%	8.6%
Total.....	\$68	\$103	\$23	\$22	57.1%	85.9%	12.5%	4.2%	30.4%	9.9%

TABLE G  
 PROPORTION OF BED-PATIENT, OUT-PATIENT DEPARTMENT AND OUT-OF-HOSPITAL  
 CLAIMS IN THE FREQUENCY DATA, OMITTING OBSTETRICAL CLAIMS

Procedure Code	Description	Hospital Bed-Patient	Out-Patient Department	Out-of-Hospital	Total Claims
110-149	Biopsy	304	53	224	581
158-161	Cystoscopy	1,977	160	588	2,725
178-180	Proctoscopy	93	11	134	238
182-184	Sigmoidoscopy	135	21	214	370
	Other Endoscopy	493	56	39	588
335	Mammary Glands, Removal of Benign Tumors and Cysts	1,034	47	95	1,176
	Other Gland Operations	1,138	16	64	1,218
510, 511, 516	Abscesses, deep, large, not of breast, incision and drainage	165	32	166	363
512, 513, 517	Abscesses, superficial, not of breast, incision and drainage	296	275	1,804	2,375
514, 515, 518	Abscesses, breast, incision and drainage	35	8	37	80
520-523	Burns, debridement and treatment of	67	82	105	254
550	Accidental laceration of skin structure, suture or repair of	781	4,551	4,598	9,930
570	Cellulitis, incision or drainage for	28	5	48	81
571-573	Carbuncle, treatment of	20	20	134	174
580-581	Foreign body, removal of (except from eye or body cavity)	134	340	599	1,073
	Other Infections and Injuries	439	232	416	1,087
754	Scar tissue or keloid, excision of	67	16	27	110
	Other Plastic Surgery	432	35	43	510
912, 913	Pilonidal cyst or sinus, incision or excision of	382	19	56	457
916	Sebaceous cyst, excision of	342	470	1,516	2,328
930, 931, 934	Tumors, benign, superficial, including warts and calluses, removed by surgical procedure	1,573	1,211	5,698	8,482
936, 937	Tumors, malignant, face, lip or skin removed by surgical procedure	150	84	261	495
950, 951, 970, 971	Tumors, benign, superficial, implantation of radioactive substance, X-Ray or other radiation treatments	7	13	64	84
956, 957, 976, 977	Tumors, malignant, face, lip or skin, implantation of radioactive substance, X-Ray or other radiation treatment	11	10	83	104
	Other Tumors or Cysts	495	40	135	670
	Total General Surgery	10,598	7,807	17,148	35,553

TABLE G—Continued

Procedure Code	Description	Hospital Bed-Patient	Out-Patient Department	Out-of-Hospital	Total Claims
1014-1016	Finger or thumb, one or more, amputation of	59	47	28	134
1036-1038	Toe, one or more, amputation of	37	7	8	52
	Other amputation	45	2	.....	47
1240-1241	Exostosis, removal of	57	5	18	80
1265-1266	Ostectomy, nail bed or nail fold	187	162	648	997
	Other bone operations	324	11	34	369
1410	Bursae, aspiration, one or more	16	6	82	104
1440, 1450	Bursae, irrigation	12	2	29	43
	Other bursae operations	77	3	24	104
1618	Clavicle, dislocation of, closed reduction	9	12	13	34
1622	Elbow, dislocation of, closed reduction	18	26	23	67
1626, 1628	Finger or thumb, dislocation of, one or more, closed reduction	5	38	25	68
1658	Shoulder dislocation, closed reduction	49	42	26	117
	Other dislocations	130	34	49	213
2034, 2035	Nasal bones, fracture of	96	77	57	230
2040, 2042, 2044, 2046	Carpal bones, fracture of, one or more, closed reduction	94	141	101	336
2050	Elbow, intra-articular fracture of, one or more bones, closed reduction	30	53	29	112
2054, 2056, 2058	Finger or thumb, fracture of, one or more, closed reduction	28	216	239	483
2060, 2062	Humerus, fracture of, closed reduction	185	153	89	427
2070, 2072, 2074, 2076	Metacarpal bones, fracture of, one or more, closed reduction	29	114	119	262
2080, 2082, 2090, 2092	Radius or ulna, fracture of, closed reduction	248	583	341	1,172
2084, 2086	Radius and ulna, fracture of, closed reduction	243	253	90	586
2100, 2102	Clavicle, fracture of, closed reduction	136	306	272	714
2130-2135	Rib, fracture of, one or more, reduction	86	88	179	353
2200, 2202	Ankle, Pott's or Cotton's fracture of, closed reduction	100	76	67	243

TABLE G—Continued

Procedure Code	Description	Hospital Bed-Patient	Out-Patient Department	Out-of-Hospital	Total Claims
2206, 2208, 2250, 2252	Astragalus or Os Calcis, fracture of, closed reduction	30	32	34	96
2222, 2224, 2280, 2282	Fibula or Tibia, fracture of, closed reduction	176	196	129	501
2232, 2234, 2236, 2238, 2270, 2272, 2274, 2276	Metatarsal or Tarsal bones, fracture of, one or more, closed reduction	58	181	131	370
2284, 2286	Tibia and fibula, fracture of, closed reduction	86	45	19	150
2292, 2294, 2296	Toe, fracture of, one or more, closed reduction	13	88	181	282
	Other fractures	960	199	224	1,383
2491	Arthrocentesis or tapping of joint	22	20	68	110
	Other joint operations	393	13	26	432
2610-2799	Muscle operations	57	10	10	77
2810	Excision of ganglion, cyst, abscess, or other lesion of tendon or sheath	215	64	79	358
2840, 2841	Suture of tendon, single or multiple	157	72	39	268
	Other tendon operations	122	7	7	136
	Total Musculoskeletal Surgery	4,589	3,384	3,537	11,510
3040, 3041	Incision of ear-drum (myringotomy, tympanotomy, paracentesis tympani)	80	87	472	639
	Other ear operations	162	15	23	200
3212, 3213	Chalazion, excision or curettage, single or multiple	65	70	719	854
3230, 3231	Corneal or scleral ulcer, cauterization or keratotomy	6	4	38	48
3252-3255	Foreign body, cornea, sclera, or intraocular, removal	29	71	292	392
3258	Hordeolum, operation for	1	2	22	25
3262	Lacrimal duct, dilation of	29	8	42	79
3268	Pterygium, operation for	72	21	69	162
	Other eye operations	1,002	25	61	1,088

TABLE G—Continued

Procedure Code	Description	Hospital Bed-Patient	Out-Patient Department	Out-of-Hospital	Total Claims
3414	Alveolectomy	192	9	120	321
3434	Extraction of tooth, fractured by accidental means, one or more	10	4	35	49
3440	Gingivectomy	7	.....	46	53
3450, 3451	Impacted tooth, one or more, removal of	242	20	823	1,085
3460	Pyorrhea alveolaris, cutting operation for (curettage excepted)	18	.....	31	49
	Other mouth operations	61	10	97	168
3622, 3623	Nasal polyps, removal of one or more, unilateral or bilateral	86	22	213	321
3628	Nasal septum, submucous resection of, with or without reconstruction of the columella	442	4	34	480
3650	Sinuses, puncture and irrigation of, unilateral or bilateral	25	12	121	158
3652-3666	Sinusotomy	124	2	45	171
3680	Tonsillar or peritonsillar abscess, incision for drainage	23	5	25	53
3684	Tonsillectomy, with or without adenoidectomy	11,321	122	441	11,884
3692, 3693	Turbineotomy, unilateral or bilateral	14	2	28	44
	Other nose and throat operations	318	36	247	601
	Total eye, ear, mouth, nose and throat surgery	14,329	551	4,044	18,924
4272, 4273	Varicose veins, injection treatment, complete procedure, unilateral or bilateral	27	10	125	162
4276-4287	Varicose veins, ligation, with or without division	799	13	30	842
	Other artery and vein operations	127	11	13	151
	Operations on Heart or Great Vessels	67	.....	1	68
	Total Heart and Blood Vessels Surgery	1,020	34	169	1,223
	Total Thoracic Surgery	276	8	15	299
	Total Abdominal Surgery	10,140	19	25	10,184



TABLE G—Continued

Procedure Code	Description	Hospital Bed-Patient	Out-Patient Department	Out-of-Hospital	Total Claims
7010	Abscess, perianal, perirectal, perineal, or ischiorectal, incision and drainage	136	14	95	245
7040, 7041	Fissurectomy, single or multiple	68	4	23	95
7050, 7051	Fistulectomy, single or multiple	269	1	15	285
7070	Hemorrhoidectomy, external	74	23	146	243
7071, 7072	Hemorrhoidectomy, internal, or external and internal	2,150	18	101	2,269
7076	Hemorrhoids, injection treatment, complete procedure	15	6	164	185
7078	Hemorrhoids, thrombosed, incision or removal of	30	42	347	419
7180	Rectal polyps, removal of one or more	64	10	54	128
	Other proctological operations	293	6	62	361
	<b>Total Proctological Surgery</b>	<b>3,099</b>	<b>124</b>	<b>1,007</b>	<b>4,230</b>
7520	Circumcision, age less than one year	469	249	504	1,222
7521	Circumcision, age one year or greater	480	42	67	589
7604, 7606	Hydrocele, aspiration and injection, or paracentesis	19	1	34	54
7605	Hydrocele, excision	134	.....	2	136
7620	Meatotomy	26	4	30	60
7808	Ureteral dilation	38	10	45	93
7860, 7861	Varicocelectomy	24	1	15	40
7870, 7871	Vasectomy	114	48	239	401
	Other Urological operations	973	4	68	1,045
	<b>Total Urological Surgery</b>	<b>2,277</b>	<b>359</b>	<b>1,004</b>	<b>3,640</b>
8041	Cervix, cauterization of	108	69	849	1,026
8042	Cervix, conization of	93	6	89	188
8043	Cervix, dilation of, and curettage of uterus (nonpuerperal)	2,447	31	64	2,542
8044	Cervix, polypectomy, one or more	44	6	65	115
8110	Tubal insufflation or uterography	13	5	20	38
	Other gynecological operations	6,238	36	179	6,453
	<b>Total Gynecological Surgery</b>	<b>8,943</b>	<b>153</b>	<b>1,266</b>	<b>10,362</b>
	<b>Total Neurosurgery</b>	<b>1,057</b>	<b>46</b>	<b>60</b>	<b>1,163</b>
	<b>Total All Surgery</b>	<b>56,328</b>	<b>12,485</b>	<b>28,275</b>	<b>97,088</b>

ectopic pregnancy is about the same as in the 1947 Study. Only 1.1% of the procedures were performed other than as a hospital bed-patient. Multiple procedures were reported in connection with 307 of the 21,371 claims included in Table H, and in 236 of these, blood or plasma transfusions were the second procedure.

### VIII. Doctors' Charges

Table I compares the aggregate of surgical benefits paid by the companies with the total amount of the doctors' charges separately for obstetrical and nonobstetrical procedures. The table is based upon the claims in the frequency part of the study so that the various procedures are included in proper proportion.

TABLE H  
OBSTETRICAL CLAIMS INCLUDED IN FREQUENCY DATA

PROCEDURE CODE	DESCRIPTION	FEMALE EMPLOYEE	WIFE	HOSPITAL BED-PATIENT	OUT-PATIENT DEPARTMENT	OUT-OF-HOSPITAL	TOTAL	
							No.	%
8610	Abdominal operation for extra-uterine or ectopic pregnancy	22	64	86	.....	.....	86	.4%
8630, 8634	Caesarean section (abdominal or vaginal)	161	669	829	1	.....	830	3.9
8650	Delivery of child or children	3,175	15,531	18,574	26	106	18,706	87.5
8670	Miscarriage (including therapeutic or spontaneous abortion), treatment of, with dilation and curettage	264	1,135	1,369	4	26	1,399	6.5
8672	Miscarriage (including therapeutic or spontaneous abortion), treatment of, without dilation and curettage	80	270	272	4	74	350	1.6
	Total	3,702	17,669	21,130	35	206	21,371	100.0%

The table shows an over-all reimbursement of 59% for obstetrical procedures and 66% for nonobstetrical procedures. The latter percentage represents a substantial increase in benefits on the average over the comparable figure of 55% in the 1947 Study. (The percentage for obstetrical claims was not shown in the 1947 Study.) Furthermore, since doctors customarily charge more to individuals in upper earnings categories, in a large majority of the cases the rate of reimbursement was considerably more than these percentages suggest.

Table Q, starting on page 431, shows in detail the average doctor's charge for each type of operation determined by dividing the aggregate charges by the number of claims in each instance. This table is not limited to the frequency data, but includes all claims contributed to

the study. Figures appear separately for single procedure and multiple procedure claims, based on the combined data for all types of patient.

Table J measures the extent of the rise in average doctors' charges from the 1947 Study to the present one. The procedures in Table J were chosen from among the most frequent procedures where it was clear that the classification was homogeneous and the coding was consistent as between the two studies. Some of the most frequent codes, like benign cysts or tumors or skin suturing, had to be rejected for the purpose of this comparison because they encompass such a wide variety

TABLE I  
RATIO OF REIMBURSEMENT TO CHARGES FOR  
CLAIMS IN FREQUENCY DATA

TYPE PATIENT	RATIO OF TOTAL REIM- BURSEMENT TO TOTAL DOCTORS' CHARGES	
	Obstetrical Procedures	Non- obstetrical Procedures
Male Employee.....		63%
Female Employee.....	57%	67
Total Employees.....	57%	64%
Wife.....	59%	66%
Male Child.....		68
Female Child.....		68
Dependent Husband.....		66
Total Dependents.....	59%	67%
Total.....	59%	66%

of procedures. In effect, the table compares charges in 1946 with those in 1955, since the claims in the two studies came from these years for the most part.

When the figures in Table J are weighted by the relative frequencies of the procedures, surgeons' charges are shown to have gone up 26%, on the average, between the two studies, and 21% if normal deliveries are omitted from the average. Looking at the procedures individually, the increases range from 9% to 36%.

Table K brings out the variation in average doctors' charges depending upon where the operation takes place for those procedures involving a substantial proportion of other than bed-patient surgery. Code 1 represents hospitalized as a bed-patient, Code 2 in a hospital out-patient

department, and Code 3 out-of-hospital. In connection with such procedures as abscesses, benign tumors, and skin suturing, the difference in average charges is a reflection of the fact that it is the more severe cases which require hospitalization as a bed-patient.

### *IX. Dispersion of Doctors' Charges*

The average charges appearing in Tables K and Q fail to bring out the way in which the charges for individual procedures will vary. Actually, charges are seldom precisely in the amount of the average. Fees tend to be in multiples of \$5 or \$10, or of \$25 or \$50 for the more costly procedures.

TABLE J  
CHANGE IN AVERAGE DOCTORS' CHARGES FROM 1946 TO 1955 FOR  
SELECTED PROCEDURES BASED ON SINGLE PROCEDURE CLAIMS

PROCEDURE CODE	DESCRIPTION	AVERAGE CHARGE		RATIO (2) ÷ (1)	NUMBER OF CLAIMS
		1947 Study	1957 Study		
		(1)	(2)	(3)	
8650	Normal Delivery	\$ 78	\$103	132%	26,786
3684	Tonsillectomy	41	53	129	13,880
6040	Appendectomy	131	147	112	5,190
6500	Herniotomy, single	124	143	115	2,882
7072	Hemorrhoidectomy, external & internal	92	110	120	1,504
8043	Dilation and curettage	51	57	112	3,049
8080	Panhysterectomy	205	239	117	1,560
6100	Cholecystectomy	194	234	121	1,339
8670	Miscarriage, including D & C	45	56	124	2,015
8630	Caesarean section	176	200	114	1,080
370	Thyroidectomy	189	226	120	640
3250	Extraction of lens of eye	200	263	132	325
6400	Gastrectomy	252	343	136	319
7703	Prostatectomy, transurethral	225	245	109	163
7650	Nephrectomy	256	290	113	80

Table L shows the variation in charges in relation to the average for a few frequent procedures and for their total when weighted by their relative frequencies.

Thus, the actual charge is seen to be less than the average in about 58.5% of the cases. For only 12% do the charges exceed one and one-half times the average charge.

### *X. Geographical Variation in Doctors' Charges*

Table M shows the variation in doctors' charges for certain selected cities, by state, and by region for obstetrical procedures and nonobstetrical procedures separately. The charges in each area are related to the average of charges nationwide. In making the underlying computa-

**TABLE K**  
**VARIATION IN AVERAGE DOCTORS' CHARGES BY TYPE HOSPITALIZATION**  
**FOR CERTAIN SINGLE PROCEDURES**

Procedure Code	Description	Hospital Code*	Number of Claims	Total Doctors' Charges	Average Charge per Claim
0120	Biopsy, gland, muscle or superficial tissue, by excision	1	153	\$ 6,209	\$ 41
		2	30	578	19
		3	133	2,476	19
0121, 0131, 0141	Biopsy by needle aspiration	1	22	861	39
		2	5	50	10
		3	20	330	17
0310	Lymph glands or nodes, individual gland or gland mass removal, superficial	1	44	2,365	54
		2	5	101	20
		3	5	136	27
0351	Salivary glands, removal of stone from duct or gland substance	1	29	2,820	97
		2	3	145	48
		3	20	618	31
0510	Abscesses, not of breast, deep, large, single procedure, incision and drainage (not involving internal organs)	1	169	7,393	44
		2	37	620	17
		3	183	3,787	21
0511	Abscesses, not of breast, deep, large, multiple procedure, incision and drainage (not involving internal organs)	1	8	465	58
		2	3	50	17
		3	14	351	25
0512	Abscesses, not of breast, superficial, single procedure, incision and drainage (not involving internal organs)	1	389	12,343	32
		2	407	5,446	13
		3	2,087	30,823	15
0513	Abscesses, not of breast, superficial, multiple procedure, incision and drainage (not involving internal organs)	1	18	747	42
		2	11	292	27
		3	81	1,942	24
0514	Abscesses, involving breast, single procedure	1	40	1,943	49
		2	11	253	23
		3	39	740	19
0521	Burns, second degree, debridement and surgical treatment of	1	34	1,091	32
		2	74	1,325	18
		3	89	1,602	18
0522	Burns, third degree, debridement and surgical treatment of	1	15	1,357	90
		2	15	545	36
		3	24	577	24

\* The hospital codes are  
1 Hospitalized as a Bed-Patient  
2 In a Hospital Out-Patient Department  
3 Out-of-Hospital

TABLE K—Continued

Procedure Code	Description	Hospital Code*	Number of Claims	Total Doctors' Charges	Average Charge per Claim
0570	Cellulitis, incision and drainage for	1	35	\$1,083	31
		2	11	248	23
		3	59	1,168	20
0571, 0572	Carbuncle, drainage of, or excision of	1	26	1,111	43
		2	23	452	20
		3	163	3,168	19
0580	Foreign body, superficial, removal of (except from eye or body cavity)	1	88	3,056	35
		2	347	3,974	11
		3	555	5,975	11
0581	Foreign body, deep seated, removal of (except from eye or body cavity)	1	77	4,057	53
		2	77	1,722	22
		3	106	2,008	19
0754	Scar tissue or keloid, excision of	1	59	6,543	111
		2	19	828	44
		3	26	1,476	57
0912	Pilonidal cyst or sinus, incision of	1	62	5,730	92
		2	15	420	28
		3	55	1,203	22
0913	Pilonidal cyst or sinus, excision of	1	401	43,037	107
		2	8	395	49
		3	13	674	52
0916	Sebaceous cyst, excision of	1	408	15,545	38
		2	563	12,252	22
		3	1,798	32,458	18
0930	Benign tumors, superficial, including warts and calluses, single procedure, removal by surgical procedure	1	1,584	72,105	46
		2	1,220	27,174	22
		3	4,499	73,552	16
0931	Benign tumors, superficial, including warts and calluses, multiple procedure, removal by surgical procedure	1	359	21,686	60
		2	283	8,057	28
		3	1,598	37,896	24
0932	Benign tumors, deep seated, single procedure, removal by surgical procedure	1	290	21,341	74
		2	28	920	33
		3	59	1,752	30
0933	Benign tumors, deep seated, multiple procedure, removal by surgical procedure	1	21	1,575	75
		2	5	245	49
		3	26	696	27
1265, 1266	Ostectomy, nail bed or nail fold, partial or complete	1	229	7,771	34
		2	209	3,537	17
		3	788	12,930	16

TABLE K—Continued

Procedure Code	Description	Hospital Code*	Number of Claims	Total Doctors' Charges	Average Charge per Claim
3212	Chalazion, excision or curettage, single	1	67	\$ 2,237	\$33
		2	82	1,640	20
		3	747	13,307	18
3213	Chalazion, excision or curettage, multiple	1	17	716	42
		2	9	365	41
		3	90	2,688	30
3414	Alveolectomy	1	172	13,813	80
		2	9	522	58
		3	109	6,502	60
3450	Impacted tooth, removal of, one	1	97	4,369	45
		2	13	493	38
		3	676	18,927	28
3451	Impacted tooth, removal of, more than one	1	155	13,464	87
		2	9	504	56
		3	259	16,505	64
3680	Tonsillar or peritonsillar abscess, incision for drainage	1	27	899	33
		2	8	178	22
		3	32	572	18
7180	Rectal polyps, removal of one or more	1	55	3,762	68
		2	10	212	21
		3	47	1,305	28
8011	Bartholin's or Skene's glands, incision	1	54	2,979	55
		2	7	115	16
		3	40	821	21
8020	Caruncle, urethral, excision or fulguration of	1	17	1,150	68
		2	2	50	25
		3	8	166	21
8041	Cervix, cauterization of	1	109	3,975	36
		2	76	1,515	20
		3	938	19,565	21
8042	Cervix, conization of	1	109	5,126	47
		2	7	218	31
		3	101	3,273	32

\* The hospital codes are  
1 Hospitalized as a Bed-Patient  
2 In a Hospital Out-Patient Department  
3 Out-of-Hospital

**TABLE L**  
**ANALYSIS OF DISPERSION OF DOCTORS' CHARGES FOR SELECTED NONOBSTETRICAL PROCEDURES**  
**BASED ON SINGLE PROCEDURE CLAIMS**

PROCEDURE CODE	DESCRIPTION	AVERAGE CHARGE PER CLAIM	CUMULATIVE PERCENTAGE OF CLAIMS INCLUDED WITHIN THE GIVEN MULTIPLE OF THE AVERAGE CHARGE								NUMBER OF CLAIMS
			0 to .25	.25 to .50	.50 to .75	.75 to 1.00	1.00 to 1.25	1.25 to 1.50	1.50 to 1.75	1.75 to 2.00	
159	Cystoscopy, diagnostic, with ureteral catheterization	\$ 43	1.4%	7.2%	28.5%	59.6%	83.5%	88.6%	93.5%	95.5%	1,621
930	Removal of benign tumor, superficial	23	8.5	32.7	54.7	63.2	77.8	80.1	87.1	88.0	7,590
2084, 2086	Fracture of radius and ulna, closed reduction	67	1.1	10.1	41.9	56.8	77.6	90.1	91.7	95.6	880
3212	Chalazion, excision or curettage	19	.9	5.3	28.4	58.8	70.3	87.6	90.6	95.4	936
6100	Cholecystectomy	234	.....	.7	22.8	54.2	79.9	96.5	98.4	98.9	1,339
6400	Gastrectomy	343	.....	1.6	28.6	51.7	80.8	96.5	98.4	98.7	319
6500	Herniotomy, single	143	.1	.8	24.7	46.0	86.3	94.6	97.5	98.6	2,882
7072	Hemorrhoidectomy, external & internal	110	1.1	10.1	30.8	59.3	75.4	92.8	95.3	97.6	1,504
8043	Cervix, dilation and curettage	57	1.0	7.0	26.5	65.6	71.6	90.5	92.8	97.4	3,049
8080	Hysterectomy	239	.4	1.1	21.4	49.0	75.9	95.6	98.1	98.7	1,560
	Total		3.5%	14.7%	36.8%	58.5%	78.0%	88.0%	92.2%	94.1%	21,894



TABLE M—GEOGRAPHICAL VARIATION IN DOCTORS' CHARGES

CODE	AREA	RATIO OF DOCTORS' CHARGES TO NATIONAL AVERAGE		NUMBER OF CLAIMS	
		Obstetrical Procedures	Non- obstetrical Procedures	Obstetrical Procedures	Non- obstetrical Procedures
21	Connecticut	116%	107%	440	1,540
22	Maine	72	85	138	343
23	Massachusetts, All	107	98	830	2,757
	Boston	138	113	43	191
	Other	105	97	787	2,566
24	New Hampshire	85	85	191	614
25	Rhode Island, All	104	106	41	127
	Providence	106	114	25	67
	Other	101	98	16	60
26	Vermont	75	79	151	392
	Region Total	101%	96%	1,791	5,773
31	Delaware	113%	93%	23	69
32	Washington, D.C.	146	111	62	198
33	New Jersey	124	115	866	2,126
34	New York, All	127	118	2,120	6,154
	Buffalo	104	98	104	304
	New York City	154	148	584	1,643
	Other	118	107	1,432	4,207
35	Pennsylvania, All	92	93	2,191	7,114
	Philadelphia	128	104	268	858
	Pittsburgh	107	106	317	943
	Other	83	89	1,606	5,313
	Region Total	112%	108%	5,262	15,661
41	Illinois, All	110%	115%	2,262	6,292
	Chicago	126	133	679	1,827
	Other	103	108	1,583	4,465
42	Indiana	84	90	1,618	4,450
43	Kentucky	93	104	322	996
44	Michigan, All	96	94	2,151	6,665
	Detroit	118	112	343	881
	Other	92	91	1,808	5,784
45	Ohio, All	96	98	2,228	6,161
	Cincinnati	102	118	152	328
	Cleveland	128	112	187	486
	Other	92	95	1,889	5,347
46	Wisconsin, All	81	88	1,250	4,519
	Milwaukee	96	104	344	1,226
	Other	75	82	906	3,293
47	West Virginia	81	86	363	1,279
	Region Total	95%	99%	10,194	30,362
51	Iowa	87%	94%	394	1,342
52	Kansas	89	89	382	1,336
53	Minnesota, All	90	97	781	2,117
	Minneapolis	97	105	255	592
	Other	87	94	526	1,525
54	Missouri, All	110	104	588	1,847
	Kansas City	129	101	147	653
	St. Louis	117	125	171	350
	Other	96	97	270	844
55	Nebraska	83	93	128	629
56	North Dakota	77	86	45	136
57	South Dakota	84	90	50	174
	Region Total	94%	96%	2,368	7,581

TABLE M—Continued

CODE	AREA	RATIO OF DOCTORS' CHARGES TO NATIONAL AVERAGE		NUMBER OF CLAIMS	
		Obstetrical Procedures	Non-obstetrical Procedures	Obstetrical Procedures	Non-obstetrical Procedures
61	Colorado	98%	95%	103	562
62	Idaho	96	97	68	319
63	Montana	88	96	47	231
64	Nevada	108	117	18	154
65	Utah	92	99	221	946
66	Wyoming	93	92	40	163
	Region Total	94%	99%	497	2,375
71	California, All	146%	124%	1,149	14,231
	Los Angeles	149	137	169	1,822
	San Francisco	144	142	50	286
	Other	145	122	930	12,123
72	Oregon, All	118	102	121	607
	Portland	125	110	42	249
	Other	114	97	79	358
73	Washington, All	127	104	281	2,100
	Seattle	144	113	99	410
	Other	117	102	182	1,690
	Region Total	140%	121%	1,551	16,938
81	Arizona	108%	106%	105	412
82	Arkansas	87	90	211	838
83	Louisiana, All	98	95	637	2,254
	New Orleans	135	113	65	330
	Other	94	92	572	1,924
84	New Mexico	98	106	110	426
85	Oklahoma	101	98	192	770
86	Texas, All	111	105	1,329	5,803
	Dallas	134	118	129	550
	Houston	135	121	281	972
	Other	101	100	919	4,281
	Region Total	105%	110%	2,584	10,503
91	Alabama	73%	83%	590	2,229
92	Florida	119	107	543	2,010
93	Georgia, All	84	86	551	2,077
	Atlanta	126	107	41	226
	Other	81	83	510	1,851
94	Maryland, All	108	94	353	976
	Baltimore	112	96	235	631
	Other	100	90	118	345
95	Mississippi	79	84	283	967
96	North Carolina	82	83	1,458	5,324
97	South Carolina	74	82	664	2,664
98	Tennessee	80	91	326	1,100
99	Virginia	86	79	634	1,946
	Region Total	86%	86%	5,402	19,293
	Grand Total All Regions	100%	100%	29,649	108,486

tion, proper allowance was made for the relative frequencies of the various procedures, using the countrywide pattern of frequencies.

The Pacific Coast States, region 70, had the highest charges, 121% of the countrywide average for nonobstetrical procedures and 140% for obstetrical procedures. This is considerably higher than the next highest region, the Middle Atlantic States, region 30, with ratios of 108% and 112%, respectively. The group of South Atlantic States, region 90, is at the other extreme, with 86% for both nonobstetrical and obstetrical procedures.

For nonobstetrical procedures 5 states and for obstetrical procedures 9 states show ratios to the countrywide average in excess of 110%. California is the highest with 124% and 146%, respectively. Thirteen states show ratios below 90% for nonobstetrical procedures, 2 being below 80%. Twenty states have ratios below 90% for obstetrical procedures, of which 6 are below 80%.

Among the cities shown, New York is the highest with 148% for nonobstetrical procedures and 154% for obstetrical procedures, but Los Angeles, San Francisco, Seattle, Washington, D.C., and Chicago approached one or both of these figures. Fifteen of the 24 cities have ratios in excess of 110% for nonobstetrical procedures and 18 for obstetrical procedures. None of the cities showed ratios below 90%.

That doctors' charges tend to be higher in urban than in nearby nonurban areas is confirmed by the fact that with few exceptions the cities showed higher ratios than the remainder of the states in which they were located. For the cities studied, the charges for nonobstetrical procedures were on the average 120% of the charges for the same procedures in the other sections of the same states. The comparable figure for obstetrical procedures is 126%.

The 1957 results are generally similar to those shown in the 1947 Study by state and region. In 1947, cities were not shown separately.

While Table M does not include data on Canadian claims, certain information concerning them was produced by the study. Based on 2,006 nonobstetrical claims and 738 obstetrical claims largely from Quebec and Ontario, the ratio of Canadian to United States doctors' charges was 81% and 72%, respectively.

The question of whether the variation in the relative values of surgical procedures in different areas of the country is significant was also investigated. A group of procedures was chosen from among those with average doctors' charges of less than \$25, another group from among those with average charges ranging from \$125 to \$175, and a third group from among those with average charges of \$300 or more, representing low cost, medium cost, and high cost procedures. These, in turn, were considered

in the high cost geographical areas, those where in Table M ratios of charges to the average were 115% or more, in middle cost areas with charges from 115% to 85% of average, and in the low cost areas with charges of 85% and under. The procedures in each subgroup were properly weighted by the appropriate relative frequencies so as to put them on a comparable basis.

The ratios derived from this analysis appear in Table N. The relative values of the low cost, medium cost, and high cost surgical procedures as brought out by these ratios are almost the same in each group of geographical areas. Thus, it would seem that on the average there is

TABLE N  
GEOGRAPHICAL VARIATION IN RELATIONSHIPS  
OF DOCTORS' CHARGES

PROCEDURES	RATIOS		
	Low Cost Areas	Middle Cost Areas	High Cost Areas
Low cost (codes 178, 512, 930, 2130, 3040, 3212, 7520, 8041)	13%	14%	15%
Medium cost (codes 2461, 3628, 3660, 3666, 6030, 6040, 6500, 8138, 8330, 8350)	100%	100%	100%
High cost (codes 2418, 2422, 3030, 3240, 4424, 5210, 6400, 7100, 9020, 9430)	232%	229%	217%

little variation by geographical area group in the relationship between doctors' charges for different surgical procedures. The level of charges, of course, varies a great deal from area to area as brought out in Table M.

#### XI. Variations by Age

Table O shows the variation in average amount of surgical reimbursement and in average doctors' charges by age group for each type of patient. The table is based on the claims in the frequency studies so that different procedures are in proper proportion. Obstetrical claims have been excluded.

The change in average amount of reimbursement measures the relative severity of surgery in each age group. If claim costs by age are desired, appropriate assumptions concerning the variation in claim frequency by age must be made.

TABLE O  
 VARIATION IN REIMBURSEMENT AND CHARGE BY AGE, IN FREQUENCY DATA,  
 OMITTING OBSTETRICAL CLAIMS

AGE	RATIO TO AVERAGE AMOUNT FOR ALL AGES											
	Male Employee		Female Employee		Wife		Male Child		Female Child		Dependent Husband	
	Reim- burse- ment	Charge	Reim- burse- ment	Charge	Reim- burse- ment	Charge	Reim- burse- ment	Charge	Reim- burse- ment	Charge	Reim- burse- ment	Charge
0 to 4.....							92%	88%	87%	86%		
5 to 9.....							97	102	95	95		
10 to 14.....							106	112	110	109		
15 to 19.....	87%	80%	86%	80%	89%	83%	117	123	138	133	33%	28%
20 to 29.....	80	76	83	83	85	83					79	77
30 to 39.....	85	82	102	104	97	96					87	87
40 to 49.....	102	100	114	115	113	113					111	108
50 to 59.....	120	124	114	118	106	111					109	119
60 to 69.....	147	160	95	101	125	132					139	132
70 & over.....	171	198	106	117	135	174					127	91
Average Amount for All Ages.....	\$55 (100%)	\$87 (100%)	\$63 (100%)	\$94 (100%)	\$71 (100%)	\$107 (100%)	\$36 (100%)	\$52 (100%)	\$39 (100%)	\$58 (100%)	\$70 (100%)	\$106 (100%)

The most complicated surgery for male employees occurs at ages over 50 and the severity increases rapidly after that age. Although the surgery for adult females is generally of a more serious nature than for males, there is considerably less variation by age. In fact, operations on adult females tend to decrease in seriousness for several years following the child-bearing ages and afterward increase but slightly.

The ratios of average charges have a steeper pitch with advancing age than do the reimbursement ratios. This is probably explained by the widespread practice of establishing fees in accordance with the patients' incomes, which tend to increase with age.

[Text continued on page 465]

TABLE P

## DISTRIBUTION BY TYPE PATIENT OF FREQUENCY DATA CLAIMS—OMITTING OBSTETRICAL CLAIMS

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
<b>GENERAL SURGERY</b>										
	<i>BIOPSY</i>									
110	Bone or bone marrow	13	9	22	11	9	6	1	27	49
120	Gland, muscle or superficial tissue, by excision	72	55	127	127	5	4	2	138	265
121, 131, 141	By needle aspiration	16	7	23	8	5	1		14	37
149	Others	40	51	91	123	5	9	2	139	230
	<i>ENDOSCOPY</i>									
	<i>BRONCHOSCOPY, ESOPHAGOSCOPY, OR GASTROSCOPY</i>									
150, 162, 166	Diagnostic	103	19	122	61	9	8	5	83	205
151, 163, 167	Operative	53	10	63	39	28	26	1	94	157
152, 164, 168	Unspecified	30	2	32	16	3	1	1	21	53
	<i>CULDOSCOPY, PERITONEOSCOPY, OR THORACOSCOPY</i>									
154, 174, 186	Diagnostic	1	1	2	4			2	6	8
155, 175, 187	Operative	1		1						1
	<i>CYSTOSCOPY</i>									
158	Diagnostic, without ureteral catheterization	186	72	258	162	13	28	5	208	466
159	Diagnostic, with ureteral catheterization	582	225	807	655	45	88	19	807	1,614
160	Operative	251	42	293	112	4	21	9	146	439
161	Unspecified	78	23	101	90	5	9	1	105	206
	<i>LARYNGOSCOPY</i>									
170	Diagnostic	18	2	20	4	10	4		18	38
171	Operative	52	4	56	17	5	4	2	28	84
172	Unspecified	5		5	2	1	2	1	6	11

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
	<i>PROCTOSCOPY</i>									
178	Diagnostic	107	28	135	67	4		1	72	207
179	Operative	12	2	14	4				4	18
180	Unspecified	5	3	8	5				5	13
	<i>SIGMOIDOSCOPY</i>									
182	Diagnostic	151	52	203	88	5	8	6	107	310
183	Operative	17	1	18	6	2			8	26
184	Unspecified	19	4	23	10			1	11	34
199	<i>OTHER ENDOSCOPIES</i>	16	3	19	10	1	1		12	31
	<i>GLANDS</i>									
	<i>LYMPH GLANDS OR NODES</i>									
310	Individual gland or gland mass removal, superficial	13	6	19	15	9	10		34	53
	<i>Radical resection of lymph glands or nodes</i>									
314, 320	Axillary or inguinal, unilateral	13	5	18	16	5	5	1	27	45
315, 321	Axillary or inguinal, bilateral	1	1	2		1			1	3
317	Cervical, unilateral	7	3	10	10	2	2		14	24
318	Cervical, bilateral	2		2	2				2	4
329	Other operations on lymph glands or nodes	9	3	12	6	6	5		17	29
	<i>MAMMARY GLANDS</i>									
330	Mastectomy, partial	3	25	28	72				72	100
331	Mastectomy, total	11	17	28	51	3			54	82
332	Mastectomy, radical		34	34	111		1		112	146
335	Removal of benign tumors or cysts	34	281	315	804	4	53		861	1,176
339	Other operations on mammary glands		2	2	17		3		20	22
	<i>PARATHYROID GLAND</i>									
340	Parathyroidectomy	2	1	3						3



TABLE P—Continued

PROCEDURE CODE  (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
	<i>SALIVARY GLANDS, SUBMAXILLARY, PAROTID, OR SUBLINGUAL</i>									
350	Removal of gland (other than for malignancy)	14		14	15	1	1		17	31
351	Removal of stone from duct or gland substance	23	4	27	14	1	3	1	19	46
359	Other operations on salivary glands	5	3	8	7	3	1		11	19
	<i>THYROID GLAND AND GOITER</i>									
370	Thyroidectomy, total or subtotal	49	105	154	349	1	11	4	365	519
374	Thyroid lobectomy, hemithyroidectomy, re- moval of thyroid adenoma or thyroid cyst	8	14	22	46	4	7		57	79
379	Other operations on thyroid gland	3	1	4	8	1			9	13
	<i>INFECTIONS AND INJURIES</i>									
	<i>ABSCESSSES, INCISION AND DRAINAGE (NOT INVOLVING INTERNAL ORGANS)</i>									
510	Abscess, not of breast, deep, large, single pro- cedure	100	32	132	66	66	62	2	196	328
511	Abscess, not of breast, deep, large, multiple procedure	9	3	12	4	1	8		13	25
512	Abscess, not of breast, superficial, single pro- cedure	957	236	1,193	410	386	242	17	1,055	2,248
513	Abscess, not of breast, superficial, multiple pro- cedure	45	10	55	20	17	7	1	45	100
514	Abscess, involving breast, single procedure	3	9	12	55	1	6		62	74
515	Abscess, involving breast, multiple procedure		1	1	3				3	4
516	Abscess, not of breast, deep, large, unspecified number of procedures	6	1	7	1	1	1		3	10
517	Abscess, not of breast, superficial, unspecified number of procedures	11		11	7	4	4	1	16	27
518	Abscess, involving breast, unspecified number of procedures		1	1		1			1	2

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
	<i>BURNS, DEBRIDEMENT AND SURGICAL TREATMENT OF</i>									
521	Localized burn, second degree	37	14	51	35	51	38		124	175
522	Localized burn, third degree	12	3	15	7	14	14		35	50
523	More extensive burn, not localized	3	1	4	8	9	8		25	29
	<i>OTHER INFECTIONS AND INJURIES</i>									
550	Accidental laceration of skin structure, suture or repair of <i>Blood or plasma transfusion</i>	1,962	273	2,235	819	4,648	2,174	54	7,695	9,930
560	Single	23	11	34	36	32	32	2	102	136
561	Multiple	50	13	63	48	25	14	4	91	154
562	Unspecified number	6	2	8	6	4	2		12	20
570	Cellulitis, incision or drainage for <i>Carbuncle</i>	37	5	42	7	18	13	1	39	81
571	Drainage of	96	11	107	21	10	8	2	41	148
572	Excision of <i>Foreign body, removal of (except from eye or body cavity)</i>	17	2	19	4	3			7	26
580	Superficial	251	42	293	112	294	135	4	545	838
581	Deep seated	67	18	85	32	75	42	1	150	235
589	Ulcer, superficial, excision	11	4	15	3	1	1	2	7	22
599	Other infections and injuries not elsewhere specified	224	48	272	95	263	124	1	483	755

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE (2)	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
	<i>PLASTIC SURGERY</i>									
710	Epispadias or hypospadias, repair of (complete procedure)	2		2		19			19	21
720	Labioplasty or cheiloplasty	1	1	2		9	8		17	19
730	Otoplasty	5	1	6	4	10	8		22	28
740	Periosteal or bone graft	3		3	1	2		1	4	7
750	Rhinoplasty	23	21	44	14	15	3	1	33	77
754	Scar tissue or keloid, excision of	20	19	39	27	22	22		71	110
	<i>Skin grafting</i>									
760, 761	Direct flap or transplant or pinch graft	38	8	46	17	57	25		99	145
762	Tube graft	4	1	5	7	2	2		11	16
780	Staphylorrhaphy or palatoplasty	2	1	3	2	25	21		48	51
784	Syndactylism, repair of					9	1		10	10
790, 791, 792	Talipes equinus, correction of					22	18		40	40
799	Other plastic surgery	25	11	36	24	25	11		60	96
	<i>TUMORS OR CYSTS</i>									
	<i>CYSTS</i>									
910	Branchial cyst, excision of	6	4	10	9	2	7		18	28
912	Pilonidal cyst or sinus, incision of	70	4	74	13	7	10	2	32	106
913	Pilonidal cyst or sinus, excision of	210	43	253	44	19	29	6	98	351
916	Sebaceous cyst, excision of	1,394	273	1,667	482	87	73	19	661	2,328
918	Thyroglossal cyst, excision of	19	5	24	10	15	11		36	60

TABLE P—Continued

PROCEDURE CODE  (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Husbands (8)	Total Depend- ents (9)	
	<i>TUMORS (NOT ELSEWHERE SPECIFIED)</i>									
	<i>Removal by surgical procedure</i>									
930	Benign tumors, superficial, including warts and calluses, single procedure	2,420	848	3,268	1,448	536	624	48	2,656	5,924
931	Benign tumors, superficial, including warts and calluses, multiple procedure	696	379	1,075	612	131	156	14	913	1,988
932	Benign tumors, deep seated, single procedure	133	44	177	112	26	35	4	177	354
933	Benign tumors, deep seated, multiple procedure	10	12	22	13	3	4	1	21	43
934	Benign tumors, superficial, including warts and calluses, unspecified number of procedures	177	96	273	155	67	70	5	297	570
935	Benign tumors, deep seated, unspecified number of procedures	6	4	10	1	1			2	12
936, 937	Malignant tumors, face, lip or skin	332	38	370	110	2	7	6	125	495
938, 939	Malignant tumors, not elsewhere specified	43	8	51	27	3	3	1	34	85
	<i>Implantation of radioactive substance, X-ray or other radiation treatment</i>									
950, 951, 970, 971	Benign tumors, superficial	19	9	28	15	12	28	1	56	84
952, 953, 972, 973	Benign tumors, deep seated	5		5	5	1	1		7	12
956, 957, 976, 977	Malignant tumors, face, lip or skin	65	10	75	27			2	29	104
958, 959, 978, 979	Malignant tumors, not elsewhere specified	16	17	33	40	2		1	43	76
TOTAL FOR GENERAL SURGERY		11,696	3,717	15,413	8,182	7,255	4,434	269	20,140	35,553

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EMPLOYEES AND DEPENDENTS (10)
		Male Employees (2)	Female Employees (3)	Total Employees (4)	Wives (5)	Male Children (6)	Female Children (7)	Husbands (8)	Total Dependents (9)	
<b>MUSCULOSKELETAL SURGERY</b>										
1010	<i>AMPUTATIONS</i> Arm, amputation of, through humerus	1		1						1
	<i>Finger or thumb (one or more phalanges), amputation of</i>									
1014	Single	51	3	54	9	30	13	1	53	107
1015	Multiple	14		14	2	9	1		12	26
1016	Unspecified number	1		1						1
1018	Foot, amputation of, below ankle	4		4	1	1			2	6
1022	Hand, amputation of, below wrist	1		1				1	1	2
1024	Hip, disarticulation at						1		1	1
1026	Knee, disarticulation at						1		1	1
1028	Leg, amputation of, through tibia and fibula, or at ankle	8	1	9	4	1	1		6	15
1030	Scapulothoracic amputation									
1032	Shoulder, disarticulation at				1				1	1
1034	Thigh, amputation of, through femur	13		13	2		1	1	4	17
1036	Toe, amputation of, single	13	3	16	8	9	6		23	39
1037	Toe, amputation of, multiple	5		5	6			2	8	13
1099	Other amputations	2		2		1			1	3

TABLE P—Continued

PROCEDURE CODE  (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
	<i>BONES</i>									
1210	Bone plates or pins, removal of	7	1	8	6	6	2		14	22
1220	Coccyx, excision of	6	11	17	19		3		22	39
1230	Diseased portion of bone (except alveolar processes) removal of, not for osteomyelitis	19	3	22	8	11	8	1	28	50
	<i>Exostosis, removal of</i>									
1240	Single	20	10	30	17	8	15		40	70
1241	Multiple	3	3	6	3		1		4	10
	<i>Hallux Valgus, operation for</i>									
1250	Simple	2	5	7	21	1	2		24	31
1251	Radical	2	7	9	18		1	1	20	29
1252	Unclassified		7	7	9				9	16
	<i>Osteotomy</i>									
1260	Carpal bones, one or more	2		2	2		1		3	5
1261	Metacarpal bone, one			1	1	1	1		3	3
1263	Metatarsal bone, one	6	4	10	8	1			9	19
1264	Metatarsal bone, more than one	1		1	1				1	2
1265	Nail bed or nail fold, partial	120	33	153	77	85	44	2	208	361
1266	Nail bed or nail fold, complete	156	60	216	170	146	102	2	420	636
1267	Phalanx, one	1		1	4	2			6	7
1268	Phalanx, more than one				1	1			2	2
1270	Tarsal bones, one or more	1	1	2						2
1280	Osteomyelitis or bone abscess, operation for	6	2	8	7	7	2	1	17	25
1290	Sequestrectomy	14	3	17	7	3	2		12	29
1299	Other bone operations not elsewhere specified	22	8	30	10	26	22		58	88

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
	<i>BURSAE</i>									
1410	Aspiration, one or more	64	12	76	12	10	1	5	28	104
1420	Bursectomy (excision of bursa)	40	11	51	23	2		1	26	77
1430	Bursotomy	22		22	3	2			5	27
1440, 1450	Irrigation or injection, one or more	23	2	25	17	1			18	43
	<i>DISLOCATIONS</i>									
1610	Astragalo-tarsal bones, dislocation of, closed re- duction	3	3	6	3	4	3		10	16
1614	Carpal bones, dislocation of, closed reduction	2		2	1	7	3		11	13
1615	Carpal bones, dislocation of, open reduction				1				1	1
1618	Clavicle, dislocation of, closed reduction	5		5	4	14	11		29	34
1619	Clavicle, dislocation of, open reduction	3		3	1	1		1	3	6
1622	Elbow dislocation, closed reduction	8	2	10	5	31	21		57	67
1623	Elbow dislocation, open reduction						1		1	1
1626, 1628	Finger or thumb, dislocation of, one or more, closed reduction	21	4	25	5	31	7		43	68
1627, 1629	Finger or thumb, dislocation of, one or more, open reduction		1	1		1		1	2	3
1632	Hip dislocation, closed reduction	6	2	8		5	14		19	27
1633	Hip dislocation, open reduction	2		2		1	3		4	6
1636	Knee dislocation, except dislocation of patella, closed reduction	3	2	5	3	3	3		9	14

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
1640, 1642	Metacarpal bone, dislocation of, one or more, closed reduction	2		2	1	3	1		5	7
1646, 1648	Metatarsal bone, dislocation of, one or more, closed reduction	2	1	3	7	3	2		12	15
1647, 1649	Metatarsal bone, dislocation of, one or more, open reduction	1		1						1
1652	Patella, dislocation of, closed reduction	5	2	7	2	1	4	1	8	15
1653	Patella, dislocation of, open reduction				2		3		5	5
1656	Semilunar cartilage, dislocation of, open reduction or excision	26		26	5	6	3	2	16	42
1658	Shoulder dislocation, closed reduction	59	10	69	26	15	5	2	48	117
1659	Shoulder dislocation, open reduction	2	1	3	1				1	4
1666	Temporomandibular dislocation, closed reduction	2	2	4	6		2	1	9	13
1668, 1670	Toe, dislocation of, one or more, closed reduction				4	2	1	1	8	8
1674	Vertebrae, dislocation of, closed reduction	3	1	4	7	3	1		11	15
1675	Vertebrae, dislocation of, open reduction	1		1						1
	<b>FRACTURES</b>									
	<i>Skull</i>									
2010	Nonoperative treatment of fracture of skull	19	3	22	4	41	21		66	88
2014	Compound fracture of skull, treatment of, including debridement and dural repair	6		6	2	6	4		12	18
2018	Depressed fracture of skull, treatment of, with operation	6		6	2	3	1		6	12



TABLE P—Continued

PROCEDURE CODE  (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEN- DENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
2024, 2026, 2030, 2031	<i>Facial bones</i> Mandible, fracture of, reduction without wiring of teeth or maxilla, treatment of fracture of	18	9	27	5	5	7		17	44
2025	Mandible, fracture of, closed reduction with wiring of teeth	27	2	29	1	7	2		10	39
2034, 2035	Nasal bones, fracture of, reduction	55	12	67	30	100	32	1	163	230
2039	Other facial bones	6	1	7	3	6			9	16
2040, 2042, 2044, 2046	<i>Upper extremity</i> Carpal bone, fracture of, one or more, closed reduction	58	30	88	71	108	67	2	248	336
2041, 2043, 2045, 2047	Carpal bone, fracture of, one or more, open re- duction	3	2	5	2	2			4	9
2050	Elbow, intra-particular fracture of, one or more bones, closed reduction	11	8	19	8	54	31		93	112
2051	Elbow, intra-particular fracture of, one or more bones, open reduction	6	2	8	2	9	5		16	24
2054	Finger or thumb, fracture of one, closed reduc- tion	128	26	154	62	163	79	2	306	460
2055	Finger or thumb, fracture of one, open reduc- tion	64	12	76	18	63	27	2	110	186
2056	Finger or thumb, fracture of more than one, closed reduction	4	3	7	1	8	5		14	21
2057	Finger or thumb, fracture of more than one, open reduction	5		5	3	3			6	11

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EMPLOYEES AND DEPENDENTS (10)
		Male Employees (2)	Female Employees (3)	Total Employees (4)	Wives (5)	Male Children (6)	Female Children (7)	Husbands (8)	Total Dependents (9)	
2058	Finger or thumb, fracture of unspecified number, closed reduction				1	1			2	2
2060, 2062	Humerus, fracture of, closed reduction	37	21	58	49	188	130	2	369	427
2061, 2063	Humerus, fracture of, open reduction	12	2	14	8	17	6	1	32	46
2070, 2072, 2074, 2076	Metacarpal bone, fracture of, one or more, closed reduction	106	8	114	19	112	15	2	148	262
2071, 2073, 2075, 2077	Metacarpal bone, fracture of, one or more, open reduction	4		4		3		1	4	8
2080, 2082, 2090, 2092	Radius or ulna, fracture of, closed reduction	109	55	164	169	521	315	3	1,008	1,172
2081, 2083, 2091, 2093	Radius or ulna, fracture of, open reduction	7	2	9	7	14	7		28	37
2084, 2086	Radius and ulna, fracture of, closed reduction	24	13	37	40	329	178	2	549	586
2085, 2087	Radius and ulna, fracture of, open reduction	6		6	3	18	4	2	27	33
	<i>Spine and trunk</i>									
2100, 2102	Clavicle, fracture of, closed reduction	42	12	54	27	381	250	2	660	714
2101, 2103	Clavicle, fracture of, open reduction	6		6	4	10	2		16	22
2110	Coccyx, fracture of, reduction	2	2	4	10		1		11	15
2130, 2131	Rib, fracture of one, reduction	111	13	124	45	9	2	1	57	181
2132, 2133	Rib, fracture of more than one, reduction	74	19	93	37	5	4	2	48	141
2134, 2135	Rib, fracture of unspecified number, reduction	20	4	24	6	1			7	31
2140	Sacrum, fracture of, reduction	2	1	3	10				10	13
2150, 2151	Scapula, fracture of, reduction	16	3	19	9	8	3		20	39
2154	Sternum, fracture of, closed reduction	5	2	7						7

TABLE P—Continued

PROCEDURE CODE  (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EMPLOYEES AND DEPENDENTS (10)
		Male Employees (2)	Female Employees (3)	Total Employees (4)	Wives (5)	Male Children (6)	Female Children (7)	Husbands (8)	Total Dependents (9)	
2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167 2170, 2171	Vertebra, except coccyx, fracture of body of one or more than one, reduction	36	11	47	19	10	4	1	34	81
	Vertebra, fracture of lateral or spinous process of, one or more, reduction	8	3	11	7	8	1		16	27
	<i>Pelvis</i>									
2180, 2181, 2182, 2183	Innominate bone (ilium, ischium, or os pubis), fracture of, reduction	26	8	34	13	12	6	1	32	66
	<i>Lower extremity</i>									
2200, 2202	Ankle, Pott's or Cotton's fracture of, closed reduction	70	29	99	67	54	20	3	144	243
2201, 2203	Ankle, Pott's or Cotton's fracture of, open reduction	11	4	15	7	4			11	26
2206, 2208, 2250, 2252	Astragalus, or os calcis, fracture of, closed reduction	27	12	39	26	20	9	2	57	96
2207, 2209, 2251, 2253	Astragalus or os calcis, fracture of, open reduction	4		4						4
2210, 2212	Astragalus and os calcis, fracture of, closed reduction	5	1	6	2	1			3	9
2211, 2213	Astragalus and os calcis, fracture of, open reduction				1				1	1
2216, 2218	Femur, fracture of, closed reduction	12	5	17	8	58	22		88	105
2217, 2219	Femur, fracture of, open reduction	34	11	45	34	33	11	3	81	126
2222, 2224, 2280, 2282	Fibula or tibia, fracture of, closed reduction	101	28	129	85	181	103	3	372	501

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
2223, 2225, 2281, 2283	Fibula or tibia, fracture of, open reduction	32	4	36	3	10	10	1	24	60
2228	Knee, intra-articular fracture of one or more bones of, closed reduction	10	2	12	5	5	3		13	25
2229	Knee, intra-articular fracture of one or more bones of, open reduction				2	2			4	4
2232, 2234, 2236, 2238, 2270, 2272, 2274, 2276	Metatarsal or tarsal bones, fracture of one or more, closed reduction	71	45	116	110	97	45	2	254	370
2233, 2235, 2237, 2239, 2271, 2273, 2275, 2277	Metatarsal or tarsal bones, fracture of one or more, open reduction	1	1	2	1	2	1		4	6
2258	Patella, fracture of, closed reduction	19	4	23	14	10	2	2	28	51
2259	Patella, fracture of, open reduction	9		9	2	2	2		6	15
2284, 2286	Tibia and fibula, fracture of, closed reduction	34	7	41	31	50	26	2	109	150
2285, 2287	Tibia and fibula, fracture of, open reduction	26	4	30	10	12	8	1	31	61
2292	Toe, fracture of one, closed reduction	65	37	102	114	26	25		165	267
2293	Toe, fracture of one, open reduction	8	8	16	17	9	2		28	44
2294	Toe, fracture of more than one, closed reduction	4	1	5	4	4	1		9	14
2295	Toe, fracture of more than one, open reduction	3		3		1	1		2	5
2296	Toe, fracture of unspecified number, closed reduction	1		1						1

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
	<i>JOINTS</i>									
	<i>Arthrodesis</i>									
2410, 2416	Ankle or knee	15	1	16	4	3	5		12	28
2412, 2424	Elbow or wrist	5		5		1	2		3	8
2414, 2420	Hip or shoulder	3		3	1	1			2	5
2418	Invertebral disc, with laminectomy	9	1	10	7	1			8	18
2422	Spine, including sacro-iliac, not including coc- cyx	13	6	19	10	1	5		16	35
2429	Any other joint	5	4	9	8	2	6		16	25
	<i>Arthroplasty</i>									
2430, 2444	Ankle or wrist					1			1	1
2432, 2436	Elbow or knee	10	1	11	2	3	1		6	17
2434, 2442	Hip or shoulder	9	2	11	5	3	1	1	10	21
2440	Metatarsal-phalangeal joint	8	8	16	10		5		15	31
2449	Any other joint	3	1	4	3	1			4	8
	<i>Arthrolomy</i>									
2450, 2458	Ankle or wrist				1				1	1
2451, 2455	Elbow or knee	62	12	74	22	14	11	3	50	124
2452, 2457	Hip or shoulder	3	4	7	2		2		4	11
2459	Any other joint		2	2	2	2	1		5	7
	<i>Capsuloplasty, capsulotomy, capsulorrhaphy, or synovectomy</i>									
2461, 2465, 2471, 2475	Elbow or knee	3	1	4	1	1			2	6

TABLE P—Continued

PROCEDURE CODE  (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
2462, 2467, 2472, 2477	Hip or shoulder	2		2						2
2469, 2479	Other joints	4	1	5	2	4	1		7	12
	<i>Miscellaneous</i>									
2491	Arthrocentesis or tapping of joint	66	6	72	20	14	3	1	38	110
2496	Manipulation of fused or frozen joint under general anesthesia	2	2	4	2	2	1	1	6	10
2499	Other operations	26	5	31	15	12	3	1	31	62
	<i>MUSCLE</i>									
2610, 2611	Division of scalenus anticus muscle	1	2	3	5	1	1	1	8	11
2614	Division of sternocleidomastoid muscle, for wry neck					5	2		7	7
2630, 2650	Repair, suture, or transplantation of muscle, single	4	1	5	2	5	2		9	14
2631, 2651	Repair, suture, or transplantation of muscle, multiple	1		1		1	2		3	4
2640	Severence of muscle, complete or partial				2		2		4	4
2699	Other operations on muscles	9		9	7	11	10		28	37
	<i>TENDONS</i>									
2810	Excision of ganglion, cyst, abscess, or other le- sion of tendon or sheath	96	81	177	128	24	25	4	181	358
2814	Fasciectomy for Dupuytren's contracture	8	2	10	7	1	3		11	21

TABLE P—Continued

PROCEDURE CODE  (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
2840	<i>Suture of tendon</i>									
2841	Single	62	7	69	25	64	23		112	181
	Multiple	37	1	38	15	25	9		49	87
	<i>Tenotomy</i>									
2850	Single	5	8	13	5	11	10		26	39
2851	Multiple	5	2	7	3	6	5		14	21
2859	Unspecified number	5	2	7	3	2	3		8	15
	<i>Transplantation of tendon, including advance- ment or recession</i>									
2860	Single	2	4	6	2	15	5	1	23	29
2861	Multiple	3	1	4	2	3	2		7	11
TOTAL FOR MUSCULOSKELETAL SURGERY		2,908	881	3,789	2,124	3,541	1,970	86	7,721	11,510
EYE, EAR, MOUTH, NOSE AND THROAT SURGERY										
	<i>EAR</i>									
3030	Fenestration operation for otosclerosis	10	8	18	12		3	1	16	34
3040, 3041	Incision of ear-drum (myringotomy, tympanoto- my, paracentesis tympani)	110	25	135	54	237	213		504	639
3060	Labyrinthotomy	1	1	2	1				1	3
	<i>Mastoidectomy</i>									
3070	Simple, unilateral	5		5	3	9	4		16	21
3072	Radical, unilateral	20	4	24	24	11	5	2	42	66
3073	Radical, bilateral	2	2	4						4
3099	Other ear operations	19	9	28	12	22	10		44	72

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
	<i>EYE</i>									
3212	Chalazion, excision or curettage, single	353	127	480	184	39	44	5	272	752
3213	Chalazion, excision or curettage, multiple	45	23	68	24	1	8	1	34	102
3219	Conjunctiva, suture or flap operation	5		5	6	4			10	15
3223	Cornea or sclera, suture of perforating wound	4		4		4	2		6	10
3226	Corneal or scleral paracentesis (posterior sclerotomy)	1		1	1	1	2		4	5
3228	Corneal transplantation	1		1						1
	<i>Corneal or scleral ulcer</i>									
3230	Cauterization	23	4	27	10	3	2		15	42
3231	Keratotomy	3	1	4	2				2	6
3234	Dacryocystectomy or dacryoadenectomy	1		1	3	3	1		7	8
3236	Dacryocystorhinostomy	4	5	9	4	4	2		10	19
3240	Detached retina, operation for	30	2	32	5	3	1		9	41
	<i>Entropion or ectropion</i>									
3242	Cautery puncture or other nonplastic types of corrective treatment	5	3	8	1	1	3		5	13
3243	Plastic operation for correction	4	1	5	1	1	2		4	9
	<i>Enucleation or evisceration of eyeball</i>									
3246	Without implantation	10		10	3	7	3		13	23
3247	With implantation	11		11	4	6	2		12	23
3250	Extraction of lens	171	16	187	72	9	3	3	87	274



TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
	<i>Foreign body</i>									
3252	Cornea or sclera, operative removal from	93	14	107	16	39	19	2	76	183
3253	Intraocular, removal by magnet	10	2	12	1	6			7	19
3254	Intraocular, removal by cutting procedure	9	1	10	3	4	2		9	19
3255	Unspecified	89	15	104	14	36	16	1	67	171
3256	Glaucoma, operation for, other than paracen- tesis, or iridectomy	20	1	21	7	3			10	31
3258	Hordeolum, operation for	12	1	13	6	2	4		12	25
3260	Iridectomy, iridotomy, goniotomy, keratotomy, or sclerotomy	14	5	19	9	8	5		22	41
3262	Lacrimal duct, dilation of	12	8	20	12	20	27		59	79
3264	Needling of lens	3		3	3	4			7	10
3266	Orbit, reconstruction of	1		1	2	1			3	4
3268	Pterygium, operation for	104	11	115	45		1	1	47	162
3270	Ptosis, operation for	6	1	7	3	8	3		14	21
	<i>Strabismus, operation for</i>									
3272	Unilateral	25	14	39	12	138	118	2	270	309
3273	Bilateral	9	4	13		46	59		105	118
3278	Tarsorrhaphy or blepharorrhaphy	3	1	4						4
3299	Other eye operations	40	5	45	18	26	20		64	109

TABLE P—Continued

PROCEDURE CODE  (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
	<i>MOUTH</i>									
3410	Alveolar abscess, incision and drainage	14	4	18	8	2	6		16	34
3414	Alveolectomy	126	44	170	132	9	8	2	151	321
3418	Apicoectomy	6	4	10	6	5	2		13	23
3426	Dentigerous cyst, removal of	11	5	16	9	6	4		19	35
3428	Epulis, removal of	2		2	3	1	1		5	7
3434	Extraction of tooth, fractured by accidental means, one or more	15	5	20	7	10	11	1	29	49
3440	Gingivectomy	17	13	30	23				23	53
	<i>Impacted tooth, removal of</i>									
3450	One	261	158	419	201	23	21	8	253	672
3451	More than one	116	87	203	110	39	58	3	210	413
3460	Pyorrhoea alveolaris, complete procedure	24	4	28	19		2		21	49
3499	Other mouth operations	23	6	29	14	10	15	1	40	69
	<i>NOSE AND THROAT</i>									
3610	Adenoidectomy	9	7	16	2	104	70		176	192
3614	Laryngectomy	8		8	2				2	10
3618	Larynx, intubation of	2		2	1				1	3
	<i>Nasal polyps, removal of one or more</i>									
3622	Unilateral	101	15	116	32	6	3	2	43	159
3623	Bilateral	103	15	118	37	1		6	44	162
3628	Nasal septum, submucous resection of, with or without reconstruction of the columella	277	63	340	70	38	17	15	140	480

TABLE P—Continued

PROCEDURE CODE  (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
3650	Sinuses, puncture and irrigation of, unilateral or bilateral	83	21	104	35	12	4	3	54	158
	<i>Sinusotomy</i>									
3652	Frontal, radical	4		4	3				3	7
3654	Maxillary, intranasal antrum window, uni- lateral	24	6	30	13	4	1	1	19	49
3655	Maxillary, intranasal antrum window, bilateral	14	2	16	4	5	4	1	14	30
3660	Maxillary, radical (Caldwell-Luc) operation, unilateral	14	4	18	9	1	1	1	12	30
3661	Maxillary, radical (Caldwell-Luc) operation, bilateral		1	1	4				4	5
3662	Combined antrum and frontal	2		2		1			1	3
3666	Sphenoid or ethmoid, or both	27	2	29	15	3			18	47
3680	Tonsillar or peritonsillar abscess, incision for drainage	25	5	30	13	2	7	1	23	53
3684	Tonsillectomy with or without adenoidectomy	708	385	1,093	627	5,196	4,942	26	10,791	11,884
3688	Tracheotomy	12	3	15	4	19	7		30	45
	<i>Turbineotomy</i>									
3692	Unilateral	11	4	15	7		2	1	10	25
3693	Bilateral	10	3	13	3	2	1		6	19
3699	Other nose and throat operations	151	37	188	44	71	46	2	163	351
TOTAL FOR EYE, EAR, MOUTH, NOSE AND THROAT SUR- GERY		3,488	1,217	4,705	2,034	6,276	5,817	92	14,219	18,924

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EMPLOYEES AND DEPENDENTS (10)
		Male Employees (2)	Female Employees (3)	Total Employees (4)	Wives (5)	Male Children (6)	Female Children (7)	Husbands (8)	Total Dependents (9)	
<b>HEART AND BLOOD VESSEL SURGERY</b>										
	<i>ARTERIES AND VEINS</i>									
	<i>Aneurysm, arterial or arteriovenous, operation for</i>									
4010	Intracranial	4	1	5	1				1	6
4011	Intra-abdominal	5	1	6						6
4012	Intrathoracic	1		1						1
4013	Extremities	7	1	8	1	1			2	10
4020	Angiography or arteriography	14	1	15	13		5		18	33
	<i>Arteriorrhaphy</i>									
4028	Single	3		3	3	1			4	7
4029	Multiple		1	1	1				1	2
	<i>Arteriectomy or embolectomy, for exploration or removal of embolus</i>									
4032	Intrathoracic	2		2						2
4034	Neck or extremities	1		1						1
4040	Artery, ligation, primary surgical	5	1	6	3	2	1		6	12
4230	Veins, ligation for other than varicosity	11	2	13	7	1	2		10	23
4260	Veins, thrombophlebotomy	5		5	7				7	12
4270	Veins, varicose ulcer, excision of, including skin graft	1		1	1				1	2

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EMPLOYEES AND DEPENDENTS (10)
		Male Employees (2)	Female Employees (3)	Total Employees (4)	Wives (5)	Male Children (6)	Female Children (7)	Husbands (8)	Total Dependents (9)	
4272	<i>Varicose veins</i> Injection treatment, complete procedure, unilateral	16	17	33	47				47	80
4273	Injection treatment, complete procedure, bilateral	17	18	35	47				47	82
4276, 4280, 4284	Ligation, with or without division, saphenous vein, without stripping, unilateral	37	11	48	59	1	1	2	63	111
4277, 4281, 4285	Ligation, with or without division, saphenous vein, without stripping, bilateral	15	20	35	66			1	67	102
4278, 4282, 4286	Ligation, with or without division, saphenous vein, with stripping, unilateral	93	52	145	133			3	136	281
4279, 4283, 4287	Ligation, with or without division, saphenous vein, with stripping, bilateral	88	52	140	205			2	208	348
4290	Veins, venesection or phlebotomy	2		2		2	4		6	8
4299	Other operations on arteries and veins	16		16	4	4	2		10	26
	<i>HEART OR GREAT VESSELS</i>									
4420	Coarctation of aorta, operation for	1		1		1	1		2	3
4424	Commissurotomy or valvotomy	2	1	3	14				14	17
4460	Patent ductus, operation for	1		1		2	6		8	9
4464	Pericardiectomy	1		1						1
4468	Pericardiocentesis (tapping)									

TABLE P—Continued

PROCEDURE CODE  (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
4472	Pericardiotomy	1		1						1
4490	Tetralogy of Fallot, operation for						1		1	1
4498	Cardiac catheterization	8	2	10	2	3	2		7	17
4499	Other heart operations	7	3	10	5	2	2		9	19
TOTAL FOR HEART AND BLOOD VESSEL SURGERY		364	184	548	619	20	28	8	675	1,223
THORACIC SURGERY										
5110	<i>Esophagus</i> Dilation	4		4						4
5112	Removal of diverticulum	5		5	3				3	8
5114	Resection	1		1	1				1	2
5210, 5212, 5214	Lobectomy	47	5	52	18	5	3	2	28	80
5310	Pleurectomy or pleural decortication, any type	4		4						4
5410	Pneumolysis, extrapleural or intrapleural	2		2						2
5420	Pneumonectomy, total	16	2	18	3				3	21
5440, 5441	Pneumothorax	4	2	6	7	1			8	14
<i>Thoracoplasty</i>										
5510	Partial	1		1		1			1	2
5512	Complete (one or more stages)	1		1		1		1	2	3
5610	Thoracentesis (pneumocentesis)	34	4	38	16	2	6		24	62

TABLE P--Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
5620	<i>Thoracotomy, including drainage for empyema</i> Without rib resection	26	4	30	4	4		1	9	39
5621	With rib resection	15	1	16	6	6			12	28
5999	Other thoracic or chest operations	12	4	16	9	4	1		14	30
<b>TOTAL FOR THORACIC SURGERY</b>		<b>172</b>	<b>22</b>	<b>194</b>	<b>67</b>	<b>24</b>	<b>10</b>	<b>4</b>	<b>105</b>	<b>299</b>
<b>ABDOMINAL SURGERY</b>										
6010	Abdominal paracentesis (tapping)	11	6	17	14	2		1	17	34
6020	Abscess, intra-abdominal, incision and drainage of	8	4	12	6	1			7	19
6030	Adhesions, division of	16	21	37	66	4	2	1	73	110
6040	Appendectomy, with or without incision and drainage of appendiceal abscess	1,068	350	1,418	630	863	997	22	2,512	3,930
6100	Cholecystectomy, including exploration of com- mon duct	326	240	566	882		4	12	898	1,464
6110	Cholecystoduodenostomy or cholecystoenter- ostomy	4	3	7	4			1	5	12
6120	Cholecystotomy or cholelithotomy	15	6	21	48		1		49	70
6210	Colon resection	46	12	58	40	4	1		45	103
6220	Colostomy	38	6	44	29	5	2		36	80
6250	Common duct, resection or reconstruction of	2	2	4	1				1	5
6270	Diverticulum (Meckel's), excision of	7	1	8	4	5			9	17
6300	Enterectomy, with or without anastomosis	25	8	33	30	5		3	38	71

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
6400	Gastrectomy, partial or total, with or without vagotomy	252	14	266	51	1	1	12	65	331
6410	Gastric or duodenal ulcer, perforation, closure of	75	2	77	10	1	2	4	17	94
6420	Gastroenterostomy, gastrojejunostomy, gastro- duodenostomy	44	4	48	8	1	3	12	60	
6430	Gastrotomy	7	4	11	4	2	3	9	20	
6500	<i>Herniotomy, herniorrhaphy, hernioplasty</i> Single, inguinal, femoral, umbilical, ventral, or incisional	1,209	90	1,299	369	788	147	35	1,339	2,638
6501	Bilateral, inguinal or femoral	243	3	246	17	76	13	9	115	361
6502	Hiatus or diaphragmatic	20	1	21	5	2	1	8	29	
6600	Intestinal obstruction, operation for, not requir- ing resection	11	5	16	13	1	1	15	31	
6610	Intestine, reduction of volvulus or intussusception	4		4	6	4	1	11	15	
6620	Laparotomy, any procedure	102	89	191	262	33	29	7	331	522
6630	Pancreatotomy, any procedure	3	1	4	2			2	6	
	<i>Pneumoperitoneum</i>									
6650	One	1		1					1	
6651	More than one	1		1					1	
6700	Pyloric stenosis, operation for (Ramstedt's in in- fants)	4		4	2	25	7	34	38	
6710	Splenectomy	7	2	9	13	10	1	24	33	
6770	Vagotomy	3	1	4	1			1	5	
6999	Other abdominal operations	23	11	34	34	8	5	3	50	84
TOTAL FOR ABDOMINAL SURGERY		3,575	886	4,461	2,551	1,841	1,218	113	5,723	10,184



TABLE P—Continued

PROCEDURE CODE  (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
<b>PROCTOLOGICAL SURGERY</b>										
7010	Abscess, perianal, perirectal, perineal, or ischi- orectal, incision and drainage	157	19	176	34	21	9	5	69	245
7020	Anoplasty	4	1	5	4	1			5	10
7030	Cryptectomy, single or multiple	6		6	3	1		1	5	11
	<i>Fissurectomy</i>									
7040	Single	32	14	46	36	4	5		45	91
7041	Multiple	3		3		1			1	4
	<i>Fistullectomy</i>									
7050	Single	159	22	181	49	11	1	6	67	248
7051	Multiple	22	6	28	8			1	9	37
	<i>Hemorrhoidectomy</i>									
7070	External	134	33	167	73		1	2	76	243
7071	Internal	124	19	143	48		1	3	52	195
7072	External and internal	1,051	270	1,321	706	6	4	37	753	2,074
7073	Unspecified	92	21	113	76	1		2	79	192
7076	Hemorrhoids, injection treatment, complete pro- cedure	113	23	136	47			2	49	185
7078	Hemorrhoids, thrombosed, incision or removal of	261	43	304	105	4	2	4	115	419
7090	Pectenotomy, or removal of hypertrophied papil- lae, one or more	6	2	8	3		1		4	12
7100	Proctectomy, complete, combined abdominal- perineal procedure, one or more stages	19	4	23	8		1	1	10	33
7110	Proctopexy or rectopexy				1				1	1
7120	Proctorrhaphy or proctoplasty	2	1	3	2				2	5

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE (2)	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
7150	Prolapsed rectum, repair of	11	3	14	2	1			3	17
7170	Pruritus ani, cutting procedure	2	2	4						4
7171	Pruritus ani, injection procedure	2		2						2
7180	Rectal polyps, removal of one or more	76	18	94	25	2	3	4	34	128
7499	Other proctological surgery	35	8	43	28		3		31	74
TOTAL FOR PROCTOLOGICAL SURGERY		2,311	509	2,820	1,258	53	31	68	1,410	4,230
UROLOGICAL SURGERY										
7510	Abscess of kidney, incision and drainage	1		1						1
7512	Abscess, prostatic, incision and drainage	8		8				1	2	10
<i>Circumcision</i>										
7520	Age less than one year					1,222			1,222	1,222
7521	All others	164		164		421		4	425	589
<i>Cystectomy</i>										
7540	Complete, including transplantation of ureters	4	1	5	5		1		6	11
7541	Partial	2		2						2
7546	Cystotomy, cystostomy, cystolithotomy, or litho- lapaxy	24	1	25	2	3	1	1	7	32
<i>Epididymectomy</i>										
7600	Unilateral	19		19		1		1	2	21
7601	Bilateral	13		13						13

TABLE P—Continued

PROCEDURE CODE  (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives  (5)	Male Children  (6)	Female Children  (7)	Hus- bands  (8)	Total Depend- ents (9)	
	<i>Hydrocele</i>									
7604	Aspiration and injection	22		22		13			13	35
7605	Excision	83		83		50		3	53	136
7606	Paracentesis (tapping)	15		15		3			4	19
7620	Meatotomy	13		13	2	45		1	47	60
7650	Nephrectomy or heminephrectomy	47	9	56	33	6	7		46	102
7652	Nephrolithotomy	15	7	22	8		1		9	31
7654	Nephropexy	3	9	12	28	1	3		32	44
7662	Nephrotomy	9	3	12	8				8	20
	<i>Orchidectomy</i>									
7680	Unilateral	40		40		6		2	8	48
7681	Bilateral	4		4				2	2	6
7686	Orchidopexy, complete procedure	4		4		28			28	32
	<i>Penis, amputation of</i>									
7690	Simple	1		1		1			1	2
7691	Radical	3		3						3
	<i>Prostatectomy</i>									
7700	Perineal	25		25		1			1	26
7702	Suprapubic	105		105				3	3	108
7703	Transurethral	219		219				11	11	230
7720	Pyelotomy, pyelolithotomy, pyelostomy	20	3	23	14				14	37
	<i>Ureteral transplantation</i>									
7800	Unilateral		1	1						1
7801	Bilateral	1		1						1

TABLE P—Continued

PROCEDURE CODE  (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
7804	Ureterolithotomy, open	55	9	64	17			4	21	85
7806	Ureteroplasty	1		1	3	2			5	6
7808	Ureteral dilation	27	9	36	43	9	5		57	93
	<i>Urethrotomy</i>									
7812	External	2	1	3	2	4	1		7	10
7813	Internal	5		5	5			1	6	11
	<i>Urinary fistula, excision of</i>									
7840	Suprapubic				2	1			3	3
7841	Vaginal or urethral	1		1	1				1	2
	<i>Varicocelectomy</i>									
7860	Unilateral	22		22		5			5	27
7861	Bilateral	13		13						13
7870	Vasectomy	395		395		1		5	6	401
7880	Vesiculectomy, seminal	4		4						4
7999	Other urological operations	77	11	88	32	16	6	1	55	143
	TOTAL FOR UROLOGICAL SURGERY	1,466	64	1,530	205	1,840	25	40	2,110	3,640
<b>GYNECOLOGICAL SURGERY</b>										
8010	Bartholin's or Skene's glands, excision		38	38	116		1		117	155
8011	Bartholin's or Skene's glands, incision		28	28	61		3		64	92
8020	Caruncle, urethral, excision or fulguration of		8	8	22		1		23	31

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
	<i>Cervix</i>									
8040	Amputation of		8	8	55		2		57	65
8041	Cauterization of		195	195	827		4		831	1,026
8042	Conization of		42	42	144		2		146	188
8043	Dilation of, and curettage of uterus (non- puerperal)		578	578	1,935		29		1,964	2,542
8044	Polypectomy, one or more		38	38	77				77	115
8045	Any combination of cauterization, conization, dilation and curettage, or polypectomy		265	265	835		4		839	1,104
8060	Fistula, rectovaginal, vaginosigmoid, or vesico- vaginal, excision or closure of		2	2	23		2		25	27
8070	Hymenectomy		15	15	12		8		20	35
	<i>Hysterectomy</i>									
8080	Complete (pan-hysterectomy), with or with- out adnexa		493	493	1,693		2		1,695	2188
8081	Simple, or supracervical, with or without ad- nexa		31	31	106				106	137
8083	Vaginal, with or without plastic repair		50	50	243				243	293
8090	Pelvic abscess, drainage of		5	5	8				8	13
	<i>Myomectomy</i>									
8100	Abdominal approach		13	13	36		1		37	50
8101	Vaginal approach		4	4	4				4	8
8110	Tubal insufflation or uterography		14	14	24				24	38

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
8130	Uterine polyps or lesions, removal of one or more		6	6	15				15	21
8138	Uterus, suspension of, any type, with or without dilation and curettage or surgery on tubes or ovaries		78	78	268			1	269	347
8160	<i>Vulvectomy</i> Simple		2	2	4				4	6
8161	Radical (groin dissection)				1				1	1
8210	<i>Oviduct and ovary</i> Oophorectomy or oophoroplasty, unilateral or bilateral		153	153	362			35	397	550
8220	Salpingectomy or salpingoplasty, unilateral or bilateral		44	44	204			6	210	254
8224	Salpingo-oophorectomy, unilateral or bilateral		81	81	270			4	274	355
	<i>Repair procedures</i>									
8310	Atresia of vagina, plastic repair of		7	7	10			2	12	19
8320	Colporrhaphy, without other procedure		6	6	23			2	25	31
8330	Cystocele, repair of, without other procedure		9	9	29				29	38
8340	Perineorrhaphy, without other procedure		11	11	32			1	33	44
8350	Rectocele, repair of, without other procedure		4	4	21				21	25
8360	Trachelorrhaphy, without other procedure		12	12	24				24	36
8370	Urethrocele, repair of, without other procedure		3	3	5				5	8
8371	Any combination of above repair procedures		72	72	248				248	320
8599	Other gynecological operations		40	40	149			11	160	200
TOTAL FOR GYNECOLOGICAL SURGERY			2,355	2,355	7,886			121	8,007	10,362

TABLE P—Continued

PROCEDURE CODE (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEN- DENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
<b>NEUROSURGERY</b>										
9010	<i>Cranial vault, including brain</i>									
	Cisternal puncture	11	2	13	13	7	6	1	27	40
9020	Craniotomy, excluding trephination	11	1	12	10	9	4	1	24	36
9021	Gasserian ganglionectomy	3		3						3
9040	Operations involving dural, subdural or epi- dural spaces	18	3	21	8	11	6		25	46
9050	Trephination or burr holes, exploratory, uni- lateral	1		1	1	2	1		4	5
9051	Trephination or burr holes, exploratory, bi- lateral	5		5	1	1	3		5	10
9052	Trephination or burr holes, with corrective sur- gery	1		1		1	2		3	4
9060	Ventriculography or encephalography	23	5	28	21	29	28	2	80	108
<i>PERIPHERAL NERVES</i>										
9220	Injection of nerve or ganglion, diagnostic or therapeutic	7		7	3	1			4	11
9240	Neuroma, resection of, superficial	6	5	11	11	1	1		13	24
9260	Phrenicectomy or phrenicclasis	2	1	3	1				1	4
<i>Suture or neurolysis</i>										
9270	One nerve	5	1	6	3	5	3		11	17
9271	More than one nerve				1	1			2	2
<i>Transplant</i>										
9280	One nerve		1	1	1	1			2	3
9281	More than one nerve					1			1	1

TABLE P—Continued

PROCEDURE CODE  (1)	DESCRIPTION OF PROCEDURE	EMPLOYEES			DEPENDENTS					TOTAL EM- PLOYEES AND DEPEND- ENTS (10)
		Male Em- ployees (2)	Female Em- ployees (3)	Total Em- ployees (4)	Wives (5)	Male Children (6)	Female Children (7)	Hus- bands (8)	Total Depend- ents (9)	
	<i>SPINAL CORD AND SPINAL MENINGES</i>									
9420	Chordotomy	3		3	1			1	2	5
9430	Laminectomy	120	21	141	100			7	111	252
9434	Lumbar puncture	102	30	132	103	105	85	2	295	427
9450	Myelography or discography	23	7	30	20		2	2	24	54
9460, 9461	Nerve root block by injection, diagnostic or therapeutic	6	1	7	6			1	7	14
9470	Section (rhizotomy) of anterior or posterior nerve roots	1		1	1	1			2	3
9480	Spinal cord tumor, removal of	5	2	7	2	1	3		6	13
	<i>SYMPATHETIC NERVOUS SYSTEM</i>									
9640	Presacral plexus, resection of	2	5	7	7				7	14
	<i>Sympathectomy</i>									
9680	Cervical (resection of carotid sinus) unilateral		1	1						1
9681	Cervical (resection of carotid sinus) bilateral	1		1						1
9684	Dorsal (stelletomy), unilateral	1	1	2						2
9685	Dorsal (stelletomy), bilateral				1				1	1
9688	Dorso-lumbar or thoracolumbar, bilateral	1	2	3	2				2	5
9690	Lumbar, unilateral	10	4	14	7			1	8	22
9691	Lumbar, bilateral	8		8	1			1	2	10
9694	Periarterial	1		1	1				1	2
9999	Other neurosurgery	5	5	10	11	1	1		13	23
	TOTAL FOR NEUROSURGERY	382	98	480	337	180	147	19	683	1,163
	GRAND TOTAL	26,362	9,933	36,295	25,263	21,030	13,801	699	60,793	97,088



TABLE Q  
AVERAGE DOCTORS' CHARGES

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
<b>GENERAL SURGERY</b>							
	<i>BIOPSY</i>						
110	Bone or bone marrow	\$ 2,043	58	\$ 35	\$ 508	6	\$ 85
120	Gland, muscle or superficial tissue, by excision	9,838	335	29	630	7	90
121, 131, 141	By needle aspiration	1,256	48	26	283	4	71
149	Others	10,035	264	38	538	4	135
	<i>ENDOSCOPY</i>						
	<i>BRONCHOSCOPY, ESOPHAGOSCOPY, OR GASTROSCOPY</i>						
150, 162, 166	Diagnostic	\$ 12,530	205	\$ 61	\$ 4,231	44	\$ 96
151, 163, 167	Operative	15,123	184	82	3,235	27	120
152, 164, 168	Unspecified	3,552	55	65	445	5	89
	<i>CULDOSCOPY, PERITONEOSCOPY, OR THORACOSCOPY</i>						
154, 174, 186	Diagnostic	90	5	18	425	5	85
155, 175, 187	Operative	125	2	63			
	<i>CYSTOSCOPY</i>						
158	Diagnostic, without ureteral catheterization	25,217	695	36	3,320	56	59
159	Diagnostic, with ureteral catheterization	70,043	1,621	43	12,992	164	79
160	Operative	35,199	500	70	13,790	118	117
161	Unspecified	8,020	216	37	2,798	35	80

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
	<i>LARYNGOSCOPY</i>						
170	Diagnostic	\$ 1,664	39	\$ 43	\$ 433	6	\$ 72
171	Operative	8,556	106	81	1,135	8	142
172	Unspecified	565	12	47	75	1	75
	<i>PROCTOSCOPY</i>						
178	Diagnostic	3,013	196	15	320	16	20
179	Operative	811	20	41	315	3	105
180	Unspecified	210	13	16	545	2	273
	<i>SIGMOIDOSCOPY</i>						
182	Diagnostic	5,959	317	19	469	8	59
183	Operative	1,005	29	35	260	3	87
184	Unspecified	569	30	19	185	5	37
199	<i>OTHER ENDOSCOPIES</i>	1,587	34	47	225	5	45
	<i>GLANDS</i>						
	<i>LYMPH GLANDS OR NODES</i>						
310	Individual gland or gland mass removal, superficial	\$ 2,602	54	\$ 48	\$ 740	6	\$123
	<i>Radical resection of lymph glands or nodes</i>						
314, 320	Axillary or inguinal, unilateral	2,974	41	73	1,665	10	167
315, 321	Axillary or inguinal, bilateral	235	3	78			
317	Cervical, unilateral	2,537	26	98	50	1	50
318	Cervical, bilateral	150	3	50	1,200	2	600
329	Other operations on lymph glands or nodes	1,342	35	38	29	1	29

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
	<i>MAMMARY GLANDS</i>						
330	Mastectomy, partial	\$ 13,825	125	\$ 111	\$ 3,133	18	\$174
331	Mastectomy, total	15,876	106	150	1,509	8	189
332	Mastectomy, radical	41,078	153	268	17,839	56	319
335	Removal of benign tumors or cysts	88,350	1,376	64	12,607	140	90
339	Other operations on mammary glands	1,850	26	71	1,025	7	146
	<i>PARATHYROID GLAND</i>						
340	Parathyroidectomy	115	2	58	300	1	300
	<i>SALIVARY GLANDS, SUBMAXILLARY, PAROTID, OR SUBLINGUAL</i>						
350	Removal of gland (other than for malignancy)	4,560	30	152	1,122	7	160
351	Removal of stone from duct or gland substance	3,583	52	69			
359	Other operations on salivary glands	1,753	23	76			
	<i>THYROID GLAND AND GOITER</i>						
370	Thyroidectomy, total or subtotal	144,938	640	226	14,547	56	260
374	Thyroid lobectomy, hemithyroidectomy, removal of thyroid adenoma or thyroid cyst	20,101	110	183	1,760	10	176
379	Other operations on thyroid gland	2,093	13	161	525	3	175
	<i>INFECTIONS AND INJURIES</i>						
	<i>ABSCESSSES, INCISION AND DRAINAGE (NOT INVOLVING INTERNAL ORGANS)</i>						
510	Abscess, not of breast, deep, large, single procedure	\$ 12,012	396	\$ 30	\$ 775	11	\$270

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
511	Abscess, not of breast, deep, large, multiple procedure	\$ 901	26	\$ 35	\$ 662	2	\$331
512	Abscess, not of breast, superficial, single procedure	50,383	3,001	17	1,716	37	46
513	Abscess, not of breast, superficial, multiple procedure	3,323	120	28	185	3	62
514	Abscess, involving breast, single procedure	2,936	90	33	197	3	66
515	Abscess, involving breast, multiple procedure	318	4	80			
516	Abscess, not of breast, deep, large, unspecified number of procedures	267	10	27	35	1	35
517	Abscess, not of breast, superficial, unspecified number of procedures	1,158	39	30			
518	Abscess, involving breast, unspecified number of procedures	81	3	27			
	<i>BURNS, DEBRIDEMENT AND SURGICAL TREATMENT OF</i>						
521	Localized burn, second degree	4,290	216	20	478	10	48
522	Localized burn, third degree	2,496	55	45	330	2	165
523	More extensive burn, not localized	2,034	33	62	1,200	2	600
	<i>OTHER INFECTIONS AND INJURIES</i>						
550	Accidental laceration of skin structure, suture or repair of	206,874	13,460	15	9,390	215	44

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
560	<i>Blood or plasma transfusion</i>						
561	Single	\$ 5,311	204	\$ 26	\$ 430	5	\$ 86
562	Multiple	13,939	207	67	1,856	18	103
570	Unspecified number	1,209	25	48			
571	Cellulitis, incision or drainage for	2,671	108	25	455	8	57
572	<i>Carbuncle</i>						
	Drainage of	3,869	184	21	115	3	38
	Excision of	1,039	36	29			
	<i>Foreign body, removal of (except from eye or body cavity)</i>						
580	Superficial	13,015	991	13	1,157	40	29
581	Deep seated	7,812	261	30	946	15	63
589	Ulcer, superficial, excision	724	25	29	375	2	188
599	Other infections and injuries not elsewhere specified	14,856	900	17	1,786	37	48
710	<b>PLASTIC SURGERY</b>						
720	Epispadias or hypospadias, repair of (complete procedure)	\$ 3,810	24	\$ 159	\$ 300	2	\$150
730	Labioplasty or cheiloplasty	5,480	28	196	250	1	250
740	Otoplasty	5,691	31	184	1,235	5	247
750	Periosteal or bone graft	1,442	7	206	1,465	6	244
754	Rhinoplasty	21,822	81	269	3,720	14	266
	Scar tissue or keloid, excision of	8,922	105	85	3,920	32	123

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
760, 761	<i>Skin grafting</i>						
	Direct flap or transplant or pinch graft	\$ 13,456	111	\$ 121	\$ 10,340	62	\$167
762	Tube graft	1,595	9	177	2,555	12	213
780	Staphylorrhaphy or palatoplasty	9,338	48	195	1,490	6	248
784	Syndactylism, repair of	1,720	14	123			
790, 791, 792	Talipes equinus, correction of	3,519	41	86	327	1	327
799	Other plastic surgery	13,522	107	126	2,326	17	137
	<b>TUMORS OR CYSTS</b>						
	<b>CYSTS</b>						
910	Branchial cyst, excision of	\$ 3,368	32	\$ 105	\$ 450	3	\$150
912	Pilonidal cyst or sinus, incision of	7,383	134	55	1,679	11	153
913	Pilonidal cyst or sinus, excision of	43,271	431	105	5,729	42	136
916	Sebaceous cyst, excision of	62,325	2,880	22	6,804	178	38
918	Thyroglossal cyst, excision of	5,941	74	80			
	<b>TUMORS (NOT ELSEWHERE SPECIFIED)</b>						
	<i>Removal by surgical procedure</i>						
930	Benign tumors, superficial, including warts and calluses, single procedure	178,341	7,590	23	6,191	111	56
931	Benign tumors, superficial, including warts and calluses, multiple procedure	71,199	2,350	30	1,663	22	76
932	Benign tumors, deep seated, single procedure	28,005	435	64	4,086	34	120
933	Benign tumors, deep seated, multiple procedure	2,766	54	51	300	3	100

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
934	Benign tumors, superficial, including warts and calluses, unspecified number of procedures	\$ 15,541	653	\$ 24	\$ 737	11	\$ 67
935	Benign tumors, deep seated, unspecified number of procedures	748	12	62	300	1	300
936, 937	Malignant tumors, face, lip or skin	30,929	514	60	11,908	98	122
938, 939	Malignant tumors, not elsewhere specified <i>Implantation of radioactive substance, X-ray or other radiation treatment</i>	12,240	88	139	9,087	23	395
950, 951, 970, 971	Benign tumors, superficial	2,358	82	29	165	2	83
952, 953, 972, 973	Benign tumors, deep seated	550	14	39	105	1	105
956, 957, 976, 977	Malignant tumors, face, lip or skin	5,541	83	67	2,811	22	128
958, 959, 978, 979	Malignant tumors, not elsewhere specified	8,918	47	190	6,334	37	171
MUSCULOSKELETAL SURGERY							
1010	<i>AMPUTATIONS</i> Arm, amputation of, through humerus <i>Finger or thumb (one or more phalanges), amputation of</i>	\$ 350	3	\$ 117	\$ 275	1	\$275
1014	Single	4,594	126	36	1,079	20	54
1015	Multiple	986	19	52	970	12	81
1016	Unspecified number	50	2	25			

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
1018	Foot, amputation of, below ankle	\$ 1,258	7	\$ 180	\$ 115	1	\$115
1022	Hand, amputation of, below wrist	475	2	238			
1024	Hip, disarticulation at	210	1	210			
1026	Knee, disarticulation at	125	1	125			
1028	Leg, amputation of, through tibia and fibula, or at ankle	2,378	14	170	1,575	6	263
1030	Scapulothoracic amputation	500	1	500			
1032	Shoulder, disarticulation at	50	1	50	425	1	425
1034	Thigh, amputation of, through femur	2,066	10	207	2,853	8	357
1036	Toe, amputation of, single	2,712	49	55	360	6	60
1037	Toe, amputation of, multiple	1,179	14	84	475	4	119
1099	Other amputations	135	2	68	380	2	190
	<i>BONES</i>						
1210	Bone plates or pins, removal of	\$ 1,405	22	\$ 64	\$ 285		\$143
1220	Coccyx, excision of	5,105	46	111	2,190	18	122
1230	Diseased portion of bone (except alveolar processes) removal of, not for osteomyelitis	5,482	46	119	4,955	19	261
	<i>Exostosis, removal of</i>						
1240	Single	6,203	82	76	1,292	13	99
1241	Multiple	1,344	11	122	320	1	320
	<i>Hallux Valgus, operation for</i>						
1250	Simple	3,491	30	116	1,239	8	155
1251	Radical	4,355	25	174	1,695	8	212
1252	Unclassified	2,655	17	156	959	6	160



TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
439	<i>Osteotomy</i>						
	1260	Carpal bones, one or more	\$ 980	6	\$ 163	\$	\$
	1261	Metacarpal bone, one	475	4	119		
	1263	Metatarsal bone, one	1,463	16	91	1,045	6 174
	1264	Metatarsal bone, more than one	160	2	80	130	1 130
	1265	Nail bed or nail fold, partial	8,857	525	17	296	14 21
	1266	Nail bed or nail fold, complete	15,506	709	22	1,326	29 46
	1267	Phalanx, one	293	7	42		
	1268	Phalanx, more than one	261	2	131		
	1270	Tarsal bones, one or more	775	5	155		
	1280	Osteomyelitis or bone abscess, operation for	2,484	30	83	211	1 211
	1290	Sequestrectomy	2,576	29	89	271	2 136
1299	Other bone operations not elsewhere specified	12,090	95	127	3,838	13 295	
	<i>BURSAE</i>						
1410	Aspiration, one or more	\$ 2,873	115	\$ 25	\$ 343	4 \$ 86	
1420	Bursectomy (excision of bursa)	6,910	81	85	1,745	17 103	
1430	Bursotomy	1,348	29	46	265	3 88	
1440, 1450	Irrigation or injection, one or more	1,467	51	29			
	<i>DISLOCATIONS</i>						
1610	Astragalo-tarsal bones, dislocation of, closed reduction	\$ 915	21	\$ 44			
1614	Carpal bones, dislocation of, closed reduction	441	19	23			

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
1615	Carpal bones, dislocation of, open reduction	\$ 150	1	\$ 150			
1618	Clavicle, dislocation of, closed reduction	1,290	39	33	\$ 389	5	\$ 78
1619	Clavicle, dislocation of, open reduction	909	6	152			
1622	Elbow dislocation, closed reduction	3,310	86	38	365	3	122
1623	Elbow dislocation, open reduction	250	2	125	100	1	100
1626, 1628	Finger or thumb, dislocation of, one or more, closed reduction	1,460	81	18	200	5	40
1627, 1629	Finger or thumb, dislocation of, one or more, open reduction	210	3	70			
1632	Hip dislocation, closed reduction	2,717	27	101	1,018	6	170
1633	Hip dislocation, open reduction	2,600	6	433	955	2	478
1636	Knee dislocation, except dislocation of patella, closed reduction	728	16	46	288	3	96
1640, 1642	Metacarpal bone, dislocation of, one or more, closed reduction	163	6	27	90	2	45
1646, 1648	Metatarsal bone, dislocation of, one or more, closed reduction	414	15	28	275	1	275
1647, 1649	Metatarsal bone, dislocation of, one or more, open reduction	200	1	200			
1652	Patella, dislocation of, closed reduction	495	14	35	345	3	115
1653	Patella, dislocation of, open reduction	500	2	250	675	3	225
1656	Semilunar cartilage, dislocation of, open reduction or excision	6,786	40	170	788	5	158
1658	Shoulder dislocation, closed reduction	5,400	127	43	395	4	99

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TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
1659	Shoulder dislocation, open reduction	\$ 680	4	\$ 170	\$ 555	2	\$278
1666	Temporomandibular dislocation, closed reduction	696	16	44			
1668, 1670	Toe, dislocation of, one or more, closed reduction	77	9	9			
1674	Vertebrae, dislocation of, closed reduction	1,049	17	62			
1675	Vertebrae, dislocation of, open reduction	275	2	138			
	<b>FRACTURES</b>						
	<i>Skull</i>						
2010	Nonoperative treatment of fracture of skull	\$ 3,775	69	\$ 55	\$ 4,422	38	\$116
2014	Compound fracture of skull, treatment of, including debridement and dural repair	970	6	162	2,039	12	170
2018	Depressed fracture of skull, treatment of, with operation	1,945	10	195	1,520	6	253
	<i>Facial bones</i>						
2024, 2026, 2030, 2031	Mandible, fracture of, reduction without wiring of teeth or maxilla, treatment of fracture of	3,320	41	81	3,475	24	145
2025	Mandible, fracture of, closed reduction with wiring of teeth	5,589	36	155	2,390	11	217
2034, 2035	Nasal bones, fracture of, reduction	8,776	248	35	3,730	50	75
2039	Other facial bones	1,185	15	79	1,357	9	151
	<i>Upper extremity</i>						
2040, 2042, 2044, 2046	Carpal bone, fracture of, one or more, closed reduction	21,615	415	52	1,326	9	147

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
2041, 2043, 2045, 2047	Carpal bone, fracture of, one or more, open reduction	\$ 620	7	\$ 89	\$ 579	2	\$290
2050	Elbow, intra-particular fracture of, one or more bones, closed reduction	6,613	124	53	1,764	16	110
2051	Elbow, intra-particular fracture of, one or more bones, open reduction	2,685	18	149	3,041	11	276
2054	Finger or thumb, fracture of one, closed reduction	11,802	559	21	1,362	40	34
2055	Finger or thumb, fracture of one, open reduction	5,184	182	28	1,610	35	46
2056	Finger or thumb, fracture of more than one, closed reduction	779	27	29	50	1	50
2057	Finger or thumb, fracture of more than one, open reduction	313	7	45	386	8	48
2058	Finger or thumb, fracture of unspecified number, closed reduction	10	1	10	50	1	50
2060, 2062	Humerus, fracture of, closed reduction	40,523	550	74	5,068	36	141
2061, 2063	Humerus, fracture of, open reduction	6,375	37	172	6,108	18	339
2070, 2072, 2074, 2076	Metacarpal bone, fracture of, one or more, closed reduction	10,702	323	33	745	13	57
2071, 2073, 2075, 2077	Metacarpal bone, fracture of, one or more, open reduction	584	9	65			
2080, 2082, 2090, 2092	Radius or ulna, fracture of, closed reduction	76,333	1,506	51	5,382	51	106
2081, 2083, 2091, 2093	Radius or ulna, fracture of, open reduction	5,340	47	114	1,750	9	194

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
2084, 2086	Radius and ulna, fracture of, closed reduction	\$ 58,916	880	\$ 67	\$ 1,318	10	\$132
2085, 2087	Radius and ulna, fracture of, open reduction	3,739	30	125	2,730	11	248
	<i>Spine and trunk</i>						
2100, 2102	Clavicle, fracture of, closed reduction	34,425	928	37	3,780	43	88
2101, 2103	Clavicle, fracture of, open reduction	3,333	26	128	1,235	4	309
2110	Coccyx, fracture of, reduction	431	17	25	184	2	92
2130, 2131	Rib, fracture of one, reduction	4,449	230	19	77	3	26
2132, 2133	Rib, fracture of more than one, reduction	4,561	158	29	2,400	26	92
2134, 2135	Rib, fracture of unspecified number, reduction	1,170	44	27	570	5	114
2140	Sacrum, fracture of, reduction	604	13	46	236	2	118
2150, 2151	Scapula, fracture of, reduction	1,494	33	45	2,162	14	154
2154	Sternum, fracture of, closed reduction	185	7	26	150	1	150
2155	Sternum, fracture of depressed, open reduction	300	1	300			
2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167	Vertebra, except coccyx, fracture of body of one or more than one, reduction	9,979	85	117	5,324	23	231
2170, 2171	Vertebra, fracture of lateral or spinous process of, one or more, reduction	2,311	29	80	680	4	170
	<i>Pelvis</i>						
2180, 2181, 2182, 2183	Innominate bone (ilium, ischium, or os pubis), fracture of, reduction	6,881	53	130	7,921	33	240

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
	<i>Lower extremity</i>						
2200, 2202	Ankle, Pott's or Cotton's fracture of, closed reduction	\$ 20,386	300	\$ 68	\$ 1,816	16	\$114
2201, 2203	Ankle, Pott's or Cotton's fracture of, open reduction	4,455	21	212	2,075	7	296
444 2206, 2208, 2250, 2252	Astragalus, or os calcis, fracture of, closed reduction	7,002	107	65	808	9	90
2207, 2209, 2251, 2253	Astragalus or os calcis, fracture of, open reduction	800	5	160	40	1	40
2210, 2212	Astragalus and os calcis, fracture of, closed reduction	575	9	64	125	1	125
2211, 2213	Astragalus and os calcis, fracture of, open reduction	195	1	195			
2216, 2218	Femur, fracture of, closed reduction	16,120	125	129	5,458	20	273
2217, 2219	Femur, fracture of, open reduction	34,542	115	300	15,535	40	388
2222, 2224, 2280, 2282	Fibula or tibia, fracture of, closed reduction	39,257	613	64	5,057	34	149
2223, 2225, 2281, 2283	Fibula or tibia, fracture of, open reduction	10,291	56	184	4,066	18	226
2228	Knee, intra-articular fracture of one or more bones of, closed reduction	1,785	29	62	502	4	126
2229	Knee, intra-articular fracture of one or more bones of, open reduction	715	4	179	274	1	274

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
2232, 2234, 2236, 2238, 2270, 2272, 2274, 2276	Metatarsal or tarsal bones, fracture of one or more, closed reduction	\$ 16,721	475	\$ 35	\$ 456	7	\$ 65
2233, 2235, 2237, 2239, 2271, 2273, 2275, 2277	Metatarsal or tarsal bones, fracture of one or more, open reduction	851	9	95	150	1	150
2258	Patella, fracture of, closed reduction	3,320	42	79	2,446	16	153
2259	Patella, fracture of, open reduction	3,330	17	196	360	1	360
2284, 2286	Tibia and fibula, fracture of, closed reduction	17,533	186	94	3,310	18	184
2285, 2287	Tibia and fibula, fracture of, open reduction	12,684	58	219	5,579	19	294
2292	Toe, fracture of one, closed reduction	6,899	360	19	130	6	22
2293	Toe, fracture of one, open reduction	1,192	56	21	60	1	60
2294	Toe, fracture of more than one, closed reduction	480	16	30	105	2	53
2295	Toe, fracture of more than one, open reduction	190	4	48	250	3	83
2296	Toe, fracture of unspecified number, closed reduction	10	1	10			
	<b>JOINTS</b>						
	<i>Arthrodesis</i>						
2410, 2416	Ankle or knee	\$ 6,970	35	\$ 199	\$ 2,289	5	\$458
2412, 2424	Elbow or wrist	1,570	8	196	350	1	350
2414, 2420	Hip or shoulder	1,480	5	296	250	1	250
2418	Invertebral disc, with laminectomy	3,074	10	307	4,190	10	419
2422	Spine, including sacro-iliac, not including coccyx	13,694	36	380	2,470	7	353
2429	Any other joint	3,355	23	146	1,811	7	259

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
446	<i>Arthroplasty</i>						
	2430, 2444	\$ 90	1	\$ 90			
	2432, 2436	3,681	20	184	\$ 1,150	4	\$288
	2434, 2442	5,811	17	342	1,984	6	331
	2440	2,308	27	85	965	8	121
	2449	1,255	9	139	328	2	164
		<i>Arthrootomy</i>					
	2450, 2458	200	2	100			
	2451, 2455	23,094	137	169	4,883	26	188
	2452, 2457	1,645	10	165	735	3	245
	2459	398	5	80	575	3	192
		<i>Capsuloplasty, capsulotomy, capsulorrhaphy, or synovectomy</i>					
	2461, 2465, 2471, 2475	1,403	8	175	188	1	188
	2462, 2467, 2472, 2477	50	1	50	243	1	243
	2469, 2479	770	7	110	426	5	85
	<i>Miscellaneous</i>						
2491	Arthrocentesis or tapping of joint	4,025	128	31	311	5	62
2496	Manipulation of fused or frozen joint under general anesthesia	578	11	53			
2499	Other operations	7,139	67	107	375	2	188



TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
447	<b>MUSCLES</b>						
	2610, 2611 2614	Division of scalenus anticus muscle Division of sternocleidomastoid muscle, for wry neck	\$ 1,983 1,440	16 10	\$ 124 144		
	2630, 2650	Repair, suture, or transplantation of muscle, single	761	8	95	\$ 1,797	9 \$200
	2631, 2651	Repair, suture, or transplantation of muscle, multiple	500	6	83	570	3 190
	2640	Severence of muscle, complete or partial	275	2	138	153	2 77
	2699	Other operations on muscles	2,643	32	83	1,176	8 147
		<b>TENDONS</b>					
	2810	Excision of ganglion, cyst, abscess, or other lesion of tendon or sheath	\$ 16,434	362	\$ 45	\$ 3,193	39 \$ 82
	2814	Fasciectomy for Dupuytren's contracture	3,955	24	165	225	3 75
		<i>Suture of tendon</i>					
2840	Single	9,515	165	58	5,817	72 81	
2841	Multiple	6,392	75	85	4,250	40 106	
	<i>Tenotomy</i>						
2850	Single	3,681	43	86	1,233	9 137	
2851	Multiple	1,902	19	100	834	5 167	
2859	Unspecified number	1,250	12	104	1,217	7 174	
	<i>Transplantation of tendon, including advancement or recession</i>						
2860	Single	3,933	27	146	1,557	8 195	
2861	Multiple	3,245	16	203	435	2 218	

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES			
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim	
<b>EYE, EAR, MOUTH, NOSE AND THROAT SURGERY</b>								
448	<i>EAR</i>							
	3030	Fenestration operation for otosclerosis	\$ 17,030	40	\$ 426	\$ 500	1	\$500
	3040, 3041	Incision of ear-drum (myringotomy, tympanotomy, paracentesis tympani)	14,054	716	20	565	10	57
	3060	Labyrinthotomy	825	2	413	300	1	300
		<i>Mastoidectomy</i>						
	3070	Simple, unilateral	4,935	26	190	210	1	210
	3072	Radical, unilateral	22,149	83	267	2,920	9	324
	3073	Radical, bilateral	980	4	245			
3099	Other ear operations	7,556	102	74	360	1	360	
	<i>EYE</i>							
3212	Chalazion, excision or curettage, single	\$ 17,955	936	\$ 19	\$ 813	24	\$ 34	
3213	Chalazion, excision or curettage, multiple	3,859	120	32	320	7	46	
3219	Conjunctiva, suture or flap operation	1,013	18	56	175	2	88	
3223	Cornea or sclera, suture of perforating wound	1,654	12	138	100	1	100	
3226	Corneal or scleral paracentesis (posterior sclerotomy)	294	4	74	26	1	26	
3228	Corneal transplantation	700	2	350				
	<i>Corneal or scleral ulcer</i>							
3230	Cauterization	1,108	49	23				
3231	Keratotomy	464	4	116	275	2	138	
3234	Dacryocystectomy or dacryoadenectomy	510	8	64	50	1	50	
3236	Dacryocystorhinostomy	2,231	18	124	385	3	128	
3240	Detached retina, operation for	16,210	48	338	900	2	450	

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
3242	<i>Entropion or ectropion</i> Cautery puncture or other nonplastic types of corrective treatment	\$ 1,299	14	\$ 93			
3243	Plastic operation for correction	2,195	15	146			
3246	<i>Enucleation or evisceration of eyeball</i> Without implantation	4,435	28	158	\$ 425	2	\$213
3247	With implantation	4,995	26	192	859	3	286
3250	Extraction of lens	85,429	325	263	9,652	28	345
	<i>Foreign body</i>						
3252	Cornea or sclera, operative removal from	3,138	234	13	140	6	23
3253	Intraocular, removal by magnet	871	21	41			
3254	Intraocular, removal by cutting procedure	776	21	37			
3255	Unspecified	1,879	194	10	44	2	22
3256	Glaucoma, operation for, other than paracentesis, or iridectomy	7,960	40	199	512	2	256
3258	Hordeolum, operation for	285	25	11			
3260	Iridectomy, iridotomy, goniotomy, keratotomy, or sclerotomy	5,567	35	159	2,867	13	221
3262	Lacrimal duct, dilation of	2,229	83	27	230	2	115
3264	Needling of lens	1,825	17	107	200	1	200
3266	Orbit, reconstruction of	510	4	128			
3268	Pterygium, operation for	13,849	223	62	775	7	111
3270	Ptosis, operation for	4,550	25	182	350	2	175

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
3272	<i>Strabismus, operation for</i> Unilateral	\$ 70,070	389	\$ 180	\$ 1,850	7	\$264
3273	Bilateral	30,164	136	222	600	3	200
3278	Tarsorrhaphy or blepharorrhaphy	320	3	107	150	1	150
3299	Other eye operations	14,981	150	100	465	2	233
	<b>MOUTH</b>						
3410	Alveolar abscess, incision and drainage	\$ 1,056	31	\$ 34	\$ 810	9	\$ 90
3414	Alveolectomy	20,837	290	72	3,871	40	97
3418	Apicoectomy	967	18	54	381	5	76
3426	Dentigerous cyst, removal of	2,560	36	71	515	5	103
3428	Epulis, removal of	160	5	32	73	2	37
3434	Extraction of tooth, fractured by accidental means, one or more	932	38	25	1,000	11	91
3440	Gingivectomy <i>Impacted tooth, removal of</i>	6,629	53	125	560	3	187
3450	One	25,529	839	30	5,247	66	80
3451	More than one	32,653	450	73	4,373	40	109
3460	Pyorrhea alveolaris, complete procedure	4,444	47	95	258	2	129
3499	Other mouth operations	5,017	148	34	53	2	27
	<b>NOSE AND THROAT</b>						
3610	Adenoidectomy	\$ 7,998	198	\$ 40	\$ 2,046	31	\$ 66
3614	Laryngectomy	3,235	11	294	1,326	3	442
3618	Larynx, intubation of	118	3	39			

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TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
3622	<i>Nasal polyps, removal of one or more</i> Unilateral	\$ 6,280	200	\$ 31	\$ 776	12	\$ 65
3623	Bilateral	7,526	166	45	1,507	17	89
3628	Nasal septum, submucous resection of, with or without reconstruction of the columella	58,422	436	134	48,622	213	228
3650	Sinuses, puncture and irrigation of, unilateral or bilateral	4,835	176	27	778	8	97
	<i>Sinusotomy</i>						
3652	Frontal, radical	430	6	72	650	3	217
3654	Maxillary, intranasal antrum window, unilateral	1,761	40	44	2,158	19	114
3655	Maxillary, intranasal antrum window, bilateral	2,475	24	103	1,506	13	116
3660	Maxillary, radical (Caldwell-Luc) operation, unilateral	4,003	26	154	4,884	21	233
3661	Maxillary, radical (Caldwell-Luc) operation, bilateral	700	3	233	633	2	317
3662	Combined antrum and frontal	108	3	36			
3666	Sphenoid or ethmoid, or both	2,203	17	130	4,518	39	116
3680	Tonsillar or peritonsillar abscess, incision for drainage	1,691	70	24			
3684	Tonsillectomy with or without adenoidectomy	741,594	13,880	53	24,078	316	76
3688	Tracheotomy	2,662	33	81	5,251	22	239
	<i>Turbinectomy</i>						
3692	Unilateral	780	28	28	90	3	30
3693	Bilateral	640	13	49	1,320	8	165
3699	Other nose and throat operations	16,929	411	41	2,903	15	194

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
<b>HEART AND BLOOD VESSEL SURGERY</b>							
	<i>ARTERIES AND VEINS</i>						
	<i>Aneurysm, arterial or arteriovenous, operation for</i>						
4010	Intracranial	\$ 465	3	\$ 155	\$ 1,040	4	\$260
4011	Intra-abdominal	750	3	250	1,880	4	470
4012	Intrathoracic	1,000	1	1,000			
4013	Extremities	967	10	97	825	4	206
4020	Angiography or arteriography	1,451	20	73	4,298	26	165
	<i>Arteriorrhaphy</i>						
4028	Single	295	9	33	181	4	45
4029	Multiple	63	3	21			
	<i>Arteriectomy or embolectomy, for exploration or removal of embolus</i>						
4032	Intrathoracic	150	1	150	300	1	300
4034	Neck or extremities	300	2	150			
4040	Artery, ligation, primary surgical	1,003	7	143	1,181	7	169
4230	Veins, ligation for other than varicosity	1,959	21	93	1,183	7	169
4260	Veins, thrombophlebotomy	825	10	83	575	3	192
4270	Veins, varicose ulcer, excision of, including skin graft	160	1	160	97	1	97
	<i>Varicose veins</i>						
4272	Injection treatment, complete procedure, unilateral	3,943	115	34	35	2	18

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
4273	Injection treatment, complete procedure, bilateral	\$ 7,601	111	\$ 68	\$ 565	5	\$113
4276, 4280, 4284	Ligation, with or without division, saphenous vein, without stripping, unilateral	13,556	157	86	2,305	20	115
4277, 4281, 4285	Ligation, with or without division, saphenous vein, without stripping, bilateral	17,820	141	126	2,530	14	181
4278, 4282, 4286	Ligation, with or without division, saphenous vein, with stripping, unilateral	38,215	336	114	5,030	31	162
4279, 4283, 4287	Ligation, with or without division, saphenous vein, with stripping, bilateral	68,744	411	167	4,658	21	222
4290	Veins, venesection or phlebotomy	219	9	24	85	2	43
4299	Other operations on arteries and veins	2,576	26	99	295	2	148
	<i>HEART OR GREAT VESSELS</i>						
4420	Coarctation of aorta, operation for	\$ 2,150	3	\$ 717	\$ 550	1	\$550
4424	Commissurotomy or valvotomy	8,500	19	447	1,960	4	490
4460	Patent ductus, operation for	4,475	12	373	250	1	250
4464	Pericardiectomy	500	1	500			
4468	Pericardiocentesis (tapping)	50	1	50			
4472	Pericardiotomy	500	1	500	500	1	500
4490	Tetralogy of Fallot, operation for	825	2	413			
4498	Cardiac catheterization	1,469	19	77	245	2	123
4499	Other heart operations	8,975	21	427	950	2	475

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
<b>THORACIC SURGERY</b>							
454	<i>Esophagus</i>						
	5110	Dilation	\$ 325	4	\$ 81		
	5112	Removal of diverticulum	1,800	7	257	\$ 925	3
	5114	Resection	100	1	100	1,700	3
	5210, 5212, 5214	Lobectomy	15,380	45	342	23,842	48
	5310	Pleurectomy or pleural decortication, any type	600	2	300	510	2
	5410	Pneumolysis, extrapleural or intrapleural	705	2	353		
	5420	Pneumonectomy, total	5,600	13	431	7,815	14
	5440, 5441	Pneumothorax	899	14	64	574	3
		<i>Thoracoplasty</i>					
	5510	Partial	550	2	275		
	5512	Complete (one or more stages)	1,375	4	344	415	1
	5610	Thoracentesis (pneumocentesis)	3,226	80	40		
		<i>Thoracotomy, including drainage for empyema</i>					
5620	Without rib resection	6,635	29	229	8,133	26	
5621	With rib resection	6,187	20	309	5,167	14	
5999	Other thoracic or chest operations	6,589	40	165	2,573	11	
<b>ABDOMINAL SURGERY</b>							
6010	Abdominal paracentesis (tapping)	\$ 1,618	39	\$ 41	\$ 610	4	\$153
6020	Abscess, intra-abdominal, incision and drainage of	2,236	19	118	820	3	273
6030	Adhesions, division of	16,345	94	174	11,415	55	208



TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
6040	Appendectomy, with or without incision and drainage of appendiceal abscess	\$ 764,413	5,190	\$ 147	\$ 49,132	264	\$186
6100	Cholecystectomy, including exploration of common duct	313,776	1,339	234	146,442	571	256
6110	Cholecystoduodenostomy or cholecystoenterostomy	3,600	12	300	450	2	225
6120	Cholecystotomy or cholelithotomy	14,094	56	252	7,548	27	280
6210	Colon resection	24,532	72	341	23,152	64	362
6220	Colostomy	12,106	46	263	16,658	51	327
6250	Common duct, resection or reconstruction of	2,475	11	225	225	1	225
6270	Diverticulum (Meckel's), excision of	1,775	8	222	4,470	21	213
6300	Enterectomy, with or without anastomosis	16,719	56	299	11,402	34	335
6400	Gastrectomy, partial or total, with or without vagotomy	109,316	319	343	44,094	113	390
6410	Gastric or duodenal ulcer, perforation, closure of	24,505	105	233	3,775	11	343
6420	Gastroenterostomy, gastrojejunostomy, gastroduodenostomy	10,185	37	275	12,686	42	302
6430	Gastrostomy	4,340	17	255	2,805	10	281
6500	<i>Herniotomy, herniorrhaphy, hernioplasty</i> Single, inguinal, femoral, umbilical, ventral, or incisional	412,891	2,882	143	122,024	656	186
6501	Bilateral, inguinal or femoral	72,736	375	194	15,356	65	236
6502	Hiatus or diaphragmatic	9,112	28	325	3,095	10	310
6600	Intestinal obstruction, operation for, not requiring resection	5,240	25	210	4,030	14	288
6610	Intestine, reduction of volvulus or intussusception	2,450	9	272	3,713	13	286

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
6620	Laparotomy, any procedure	\$ 43,750	242	\$ 181	\$ 88,990	446	\$200
6630	Pancreatotomy, any procedure	1,240	6	207	500	1	500
	<i>Pneumoperitoneum</i>						
6650	One	150	1	150			
6651	More than one	494	2	247			
6700	Pyloric stenosis, operation for (Ramstedt's in-fants)	6,580	40	165	1,225	6	204
6710	Splenectomy	8,602	30	287	6,188	15	413
6670	Vagotomy	400	1	400	1,945	6	324
6999	Other abdominal operations	16,931	82	206	7,773	26	299
PROCTOLOGICAL SURGERY							
7010	Abscess, perianal, perirectal, perineal, or ischiorectal, incision and drainage	\$ 11,505	302	\$ 38	\$ 1,233	13	\$ 95
7020	Anoplasty	1,198	8	150	756	4	189
7030	Cryptectomy, single or multiple	585	6	98	466	7	67
	<i>Fissurectomy</i>						
7040	Single	3,768	76	50	4,445	45	99
7041	Multiple	269	4	67	175	1	175
	<i>Fistulectomy</i>						
7050	Single	23,010	251	92	10,269	89	115
7051	Multiple	2,934	24	122	2,637	17	155

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
7070	<i>Hemorrhoidectomy</i> External	\$ 7,934	246	\$ 32	\$ 6,996	75	\$ 93
7071	Internal	11,978	133	90	15,433	119	130
7072	External and internal	166,019	1,504	110	175,636	1,186	148
7073	Unspecified	18,677	222	84	21,745	174	125
7076	Hemorrhoids, injection treatment, complete procedure	9,450	208	45	2,562	33	78
457 7078	Hemorrhoids, thrombosed, incision or removal of	9,063	489	19	1,908	25	76
7090	Pectenotomy, or removal of hypertrophied papillae, one or more	457	7	65	317	5	63
7100	Proctectomy, complete, combined abdominal-perineal procedure, one or more stages	8,660	27	321	5,150	11	468
7110	Proctopexy or rectopexy	100	1	100			
7120	Proctorrhaphy or proctoplasty	1,049	7	150			
7150	Prolapsed rectum, repair of	880	10	88	2,345	9	261
7170	Pruritus ani, cutting procedure	65	4	16			
7171	Pruritus ani, injection procedure	100	2	50	50	1	50
7180	Rectal polyps, removal of one or more	5,464	117	47	2,022	32	63
7499	Other proctological surgery	6,537	88	74	1,101	9	122
UROLOGICAL SURGERY							
7510	Abscess of kidney, incision and drainage	\$ 200	1	\$ 200			
7512	Abscess, prostatic, incision and drainage	395	9	44	\$ 350	2	\$175

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
7520	<i>Circumcision</i> Age less than one year	\$ 25,571	1,622	\$ 16	\$ 210	8	\$ 26
7521	All others	21,020	760	28	1,669	32	52
7540	<i>Cystectomy</i> Complete, including transplantation of ureters	1,725	8	216	559	3	186
7541	Partial	250	1	250	1,115	4	279
7546	Cystotomy, cystostomy, cystolithotomy, or lithol- apaxy	3,993	21	190	5,729	20	286
7600	<i>Epididymectomy</i> Unilateral	2,305	22	105	992	7	142
7601	Bilateral	1,318	13	101	505	3	168
7604	<i>Hydrocele</i> Aspiration and injection	1,637	35	47	370	4	93
7605	Excision	15,114	160	94	1,995	21	95
7606	Paracentesis (tapping)	452	20	23	45	1	45
7620	Meatotomy	1,404	65	22	1,205	18	67
7650	Nephrectomy or heminephrectomy	23,168	80	290	23,465	58	405
7652	Nephrolithotomy	5,755	24	240	5,875	19	309
7654	Nephropexy	6,700	25	268	12,244	41	299
7662	Nephrotomy	3,188	11	290	4,240	15	283
7680	<i>Orchidectomy</i> Unilateral	4,399	41	107	2,925	20	146
7681	Bilateral	455	2	228	560	5	112
7686	Orchidopexy, complete procedure	3,457	28	123	1,953	11	178

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
7690	<i>Penis, amputation of</i>						
	Simple	\$ 115	2	\$ 58			
7691	Radical	250	2	125	\$ 400	1	\$400
	<i>Prostatectomy</i>						
7700	Perineal	7,891	21	376	4,125	12	344
7702	Suprapubic	23,681	72	329	26,105	74	353
7703	Transurethral	39,905	163	245	48,578	155	313
7720	Pyelotomy, pyelolithotomy, pyelostomy	6,945	25	278	7,457	28	266
	<i>Ureteral transplantation</i>						
7800	Unilateral	345	2	173			
7801	Bilateral	375	2	188			
7804	Ureterolithotomy, open	13,247	66	201	17,655	68	260
7806	Ureteroplasty	1,525	7	218	500	2	250
7808	Ureteral dilation	2,966	91	33	715	7	102
	<i>Urethrotomy</i>						
7812	External	545	4	136	1,060	8	133
7813	Internal	1,211	5	242	1,830	9	203
	<i>Urinary fistula, excision of</i>						
7840	Suprapubic	300	2	150	210	1	210
7841	Vaginal or urethral	250	1	250	150	1	150
	<i>Varicocelectomy</i>						
7860	Unilateral	2,516	27	93	1,164	9	129
7861	Bilateral	1,302	16	81	265	2	133
7870	Vasectomy	27,477	440	62	2,765	25	111
7880	Vesiculectomy, seminal	288	4	72	685	2	343
7999	Other urological operations	11,648	159	73	5,966	35	170

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
GYNECOLOGICAL SURGERY							
8010	Bartholin's or Skene's glands, excision	\$ 9,624	150	\$ 64	\$ 4,708	47	\$100
8011	Bartholin's or Skene's glands, incision	4,007	104	39	455	5	91
8020	Caruncle, urethral, excision or fulguration of <i>Cervix</i>	1,411	28	50	1,240	14	89
8040	Amputation of	5,005	47	106	6,892	45	153
8041	Cauterization of	27,126	1,196	23	2,935	75	39
8042	Conization of	9,370	233	40	1,814	24	76
8043	Dilation of, and curettage of uterus (nonpuerperal)	173,162	3,049	57	26,077	338	77
8044	Polypectomy, one or more	4,127	126	33	876	14	63
8045	Any combination of cauterization, conization, dilation and curettage, or polypectomy	90,915	1,440	63	12,733	140	91
8060	Fistula, rectovaginal, vaginosigmoid, or vesicovaginal, excision or closure of	3,814	26	147	1,685	9	187
8070	Hymenectomy	2,262	41	55	975	5	195
8080	<i>Hysterectomy</i> Complete (pan-hysterectomy), with or without adnexa	372,610	1,560	239	346,425	1,351	256
8081	Simple, or supracervical, with or without adnexa	28,052	130	216	31,229	133	235
8083	Vaginal, with or without plastic repair	73,908	294	251	24,020	94	256
8090	Pelvic abscess, drainage of	687	12	57	340	4	85
8100	<i>Myomectomy</i> Abdominal approach	3,302	15	220	10,910	48	227
8101	Vaginal approach	845	5	169	933	6	156
8110	Tubal insufflation or uterography	1,014	33	31	503	5	101

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
8130	Uterine polyps or lesions, removal of one or more	\$ 618	18	\$ 34	\$ 808	8	\$101
8138	Uterus, suspension of, any type, with or without dilation and curettage or surgery on tubes or ovaries	9,042	56	161	78,199	404	194
461	<i>Vulvectomy</i>						
	8160 Simple	465	3	155	613	3	204
8161	Radical (groin dissection)	450	2	225			
	<i>Oviduct and ovary</i>						
8210	Oophorectomy or oophoroplasty, unilateral or bilateral	33,081	195	170	105,444	569	185
8220	Salpingectomy or salpingoplasty, unilateral or bilateral	13,056	97	135	46,393	262	177
8224	Salpingo-oophorectomy, unilateral or bilateral	26,222	137	191	68,536	336	204
	<i>Repair procedures</i>						
8310	Atresia of vagina, plastic repair of	880	11	80	1,375	9	153
8320	Colporrhaphy, without other procedure	3,774	28	135	3,681	22	167
8330	Cystocele, repair of, without other procedure	4,355	33	132	3,080	20	154
8340	Perineorrhaphy, without other procedure	1,775	18	99	6,964	46	151
8350	Rectocele, repair of, without other procedure	1,726	12	144	2,350	19	124
8360	Trachelorrhaphy, without other procedure	968	11	88	3,071	31	99
8370	Urethrocele, repair of, without other procedure	1,700	9	189	125	1	125
8371	Any combination of above repair procedures	35,488	207	171	42,648	209	204
8599	Other gynecological operations	20,450	195	105	11,970	68	176

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
<b>OBSTETRICAL SURGERY</b>							
8610	Abdominal operation for extra-uterine or ectopic pregnancy	\$ 17,848	108	\$ 165	\$ 6,892	32	\$215
8630, 8634	Caesarean section (abdominal or vaginal)	216,506	1,080	200	26,286	111	237
8650	Delivery of child or children	2,767,382	26,786	103	45,279	280	162
	<i>Miscarriage (including therapeutic or spontaneous abortion), treatment of</i>						
8670	With dilation and curettage	112,338	2,015	56	5,288	60	88
8672	Without dilation and curettage	16,507	430	38	578	9	64
<b>NEUROSURGERY</b>							
	<i>Cranial vault, including brain</i>						
9010	Cisternal puncture	\$ 6,561	33	\$ 199	\$ 7,175	16	\$448
9020	Craniotomy, excluding trephination	12,745	32	398	7,510	15	501
9021	Gasserian ganglionectomy	4,300	3	1,433			
9040	Operations involving dural, subdural or epidural spaces	9,050	28	323	9,289	22	422
9050	Trephination or burr holes, exploratory, unilateral	995	7	142	1,050	3	350
9051	Trephination or burr holes, exploratory, bilateral	1,225	9	136	1,550	7	221
9052	Trephination or burr holes, with corrective surgery	875	3	292	879	2	440
9060	Ventriculography or encephalography	7,410	95	78	3,411	26	131



TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
9220	<i>PERIPHERAL NERVES</i> Injection of nerve or ganglion, diagnostic or therapeutic	\$ 510	12	\$ 43			
9240	Neuroma, resection of, superficial	2,250	24	94	\$ 1,285	7	\$184
9260	Phrenicectomy or phreniclasia <i>Suture or neurolysis</i>	280	3	93	150	1	150
9270	One nerve	888	7	127	2,748	14	196
9271	More than one nerve	175	2	88	250	1	250
9280	<i>Transplant</i> One nerve	550	3	183	297	2	149
9281	More than one nerve	160	1	160			
9420	<i>SPINAL CORD AND SPINAL MENINGES</i> Chordotomy	\$ 1,350	5	\$ 270	\$ 650	1	\$650
9430	Laminectomy	62,882	200	314	48,186	126	382
9434	Lumbar puncture	15,727	614	26	1,679	20	84
9450	Myelography or discography	2,871	61	47	1,955	9	217
9460, 9461	Nerve root block by injection, diagnostic or therapeutic	689	14	49	378	2	189

TABLE Q—Continued

PROCEDURE CODE	DESCRIPTION OF PROCEDURE	SINGLE PROCEDURES			MULTIPLE PROCEDURES		
		Total Doctors' Charges	No. of Claims	Average Charge per Claim	Total Doctors' Charges	No. of Claims	Average Charge per Claim
9470	Section (rhizotomy) of anterior or posterior nerve roots	\$ 1,465	6	\$ 244	\$ 400	1	\$400
9480	Spinal cord tumor, removal of	1,830	9	203	2,540	7	363
9640	<i>SYMPATHETIC NERVOUS SYSTEM</i> Presacral plexus, resection of <i>Sympathectomy</i>	\$ 800	3	\$ 267	\$ 2,985	14	\$213
9680	Cervical (resection of carotid sinus) unilateral				450	2	225
9681	Cervical (resection of carotid sinus) bilateral	250	1	250			
9684	Dorsal (stellectomy), unilateral	200	1	200	400	1	400
9685	Dorsal (stellectomy), bilateral	350	1	350			
9688	Dorso-lumbar or thoracolumbar, bilateral	1,600	4	400	494	1	494
9690	Lumbar, unilateral	3,368	15	225	4,875	18	271
9691	Lumbar, bilateral	2,660	9	296	835	3	278
9694	Periarterial	450	2	225			
9999	Other neurosurgery	6,120	22	278	2,551	13	196
	TOTAL	\$10,592,784	141,581		\$2,722,510	15,088	

**APPENDIX**  
**1957 SCHEDULE OF RELATIVE VALUES**  
**OF SURGICAL PROCEDURES**

If surgical expense insurance is to be fully effective, it should provide reimbursement for the different kinds of operations reasonably proportionate to the fees which surgeons may be expected to charge. A schedule should not insure, for instance, the full cost of a tonsillectomy and only a small part of the charges for an appendectomy. Instead, within the bounds of practicality, it should cover each to the same extent. This means that as surgery changes and the pattern of doctors' charges is modified correspondingly, relative value schedules must be revised from time to time. The comparatively up-to-date information concerning average surgical charges, such as appears in Table Q, can be employed to derive a new schedule of relative values for surgical procedures.

Only the single procedure code material in Table Q was referred to in deriving the 1957 Schedule of Relative Values of Surgical Procedures. The use of the combined single and multiple procedure data would have introduced an element of distortion, since doctors' charges usually take into account the additional procedures performed in multiple procedure cases. Because the 1957 Schedule is based on charges for single procedures, in practice, administrative rules must be established for its application to multiple procedure cases not otherwise specifically provided for in the Schedule.

As has been earlier stated, it is usual to consider all procedures performed in one operative field or through one incision as one procedure with a value equal to the largest appropriate for any one of the procedures involved. The values in the Schedule were determined consistently with this practice. However, where unrelated operations are performed in more than one field, a rule for combination of the separate procedure values is required. Each may be given its full value or under another widely used rule 100% value is assigned to the procedure with the largest value and 50% to each of the others.

A first step in the construction of the 1957 Schedule of Relative Values was to decide on the range of the values. From the average doctors' charges in Table Q, it was tentatively concluded that they should vary from 1.0 units for minor surgical procedures to 30.0 units for the most complex operations. Then, every effort was made to establish consistent relative values for all procedures within this range. Actually, values lower than 1.0 units will be found to have been assigned for a few extremely minor procedures. Reference was made constantly to the relative

values suggested by the relationships of the average doctors' charges for the various operations. In addition, a number of other schedules were consulted, including the Relative Value Schedule of the California Medical Association.

The skill and time required of the operating physician were also kept fully in mind. Professional medical guidance from several company medical directors was sought throughout, and the advice of a number of company claim men experienced in day-to-day claim operations was drawn upon heavily.

In working out the 1957 Schedule, it soon became apparent that greater refinement in the classification of surgical procedures than that used in the statistical part of the study would be necessary in some areas of surgery in order to arrive at a satisfactory set of relative values. For example, only one statistical code was used for all operative cystoscopies. In the Schedule of Relative Values it was important to distinguish operative cystoscopies involving transurethral resection of bladder neck, or bladder tumors, or crushing of bladder stones from other operative cystoscopies. Again, only one code appears in Table P for the widely varying procedures for suturing of accidental lacerations of the skin structure. In the Relative Value Schedule it was essential to recognize the location of the laceration on the body and the extent of the repair in terms of the number of stitches or the length of the lacerations.

Besides the expansion of the codes in this way, codes for a number of procedures not shown in the statistical part of the study were added. These classification changes necessitated renumbering, reordering, and changing the description of many of the codes. Consequently, the codes and classification descriptions in the 1957 Schedule of Relative Values will be found to differ considerably from those in the experience part of the study, although every effort was made to preserve as much of the statistical coding as possible. It should be noted that the section on oral surgery has been placed at the end of the Schedule.

While the Schedule includes classifications for substantially all surgical procedures, there will be some operations that fall outside of the listed codes. For these, relative values can be established consistently with those shown for similar procedures.

The 1957 Schedule of Relative Values is set forth in detail in appendix Exhibit II, beginning with page 467.

Judgment enters so much into the construction of such a schedule that it is unlikely that the 1957 Schedule will be regarded as satisfactory in all particulars by everyone. A practical view should be taken, however. Furthermore, it should be remembered that the Schedule is derived from nationwide data and is thus something of an average result tending

to smooth out minor variations that may arise from differing medical practices in local areas.

The Relative Values from appendix Exhibit II for representative procedures appear in appendix Exhibit I, together with corresponding

## EXHIBIT I

RELATIVE VALUES FROM 1947 AND 1957 SCHEDULES  
FOR REPRESENTATIVE PROCEDURES

CODE	PROCEDURE	NUMBER OF UNITS	
		1947 Schedule	1957 Schedule
159	Cystoscopy, diagnostic, with ureteral catheterization	25	3.5
370	Thyroidectomy, total or subtotal	150	17.5
512	Abscess, superficial, one	10	.75
913	Pilonidal cyst or sinus, excision of	50	9.0
	Fractures, treatment by closed reduction		
2054, 2292	Finger or toe, one	10	2.0
2080	Radius	25	5.0
2216	Femur	75	12.0
3240	Detached Retina, operation for	200	25.0
3250	Extraction of lens for cataract	150	20.0
3628	Nasal Septum, submucous resection of	50	10.0
3684	Tonsillectomy	30	4.0
4416	Cardiotomy	200	30.0
5210	Lobectomy, total, subtotal or segmental	200	30.0
6040	Appendectomy	100	11.0
6100	Cholecystectomy	150	17.5
6499	Herniotomy, single, inguinal, femoral or umbilical	100	11.0
	Hemorrhoidectomy		
7070	External	25	2.5
7072	Internal, or internal and external, without fistulec- tomy	50	8.0
7650	Nephrectomy	200	22.5
8043	Dilation of cervix, and curettage of uterus	25	4.0
8080	Hysterectomy, complete (pan-hysterectomy)	150	18.0
8650	Delivery of child or children	50	7.5

values from the 1947 Schedule. The range of the latter was from 10 units to 200, so that comparisons should not be made simply on the basis of ratios of the respective values for a given procedure. The comparative relativities established by each schedule must be considered.

## EXHIBIT II

## 1957 SCHEDULE OF RELATIVE VALUES OF SURGICAL PROCEDURES

Two or more procedures performed during the course of a single operation through the same incision, or in the same natural body orifice, or in the same operative field are to be considered as one procedure with a relative value equal to the largest of the values for the respective procedures, except where the Schedule specifies to the contrary

EXHIBIT II—Continued

Code Number	Procedure	Relative Value
<i>GENERAL SURGERY</i>		
<b>BIOPSY AND ENDOSCOPY</b>		
Biopsy (not in the course of another operation)		
0110	Aspiration of bone marrow, including sternal puncture	1.5
0115	Bone or bone marrow, by excision	
	Superficial	2.0
	Deep	5.0
	Glands, muscle, or superficial tissue	
	By excision	
0120	Superficial gland or tissue	1.0
0121	Deep gland or muscle	3.0
0122	By needle aspiration	1.0
	Organs of abdominal cavity	
0130	By excision	11.0
0131	By needle aspiration	2.0
	Organs of thoracic cavity	
	By excision	
0139	Lung	15.0
0140	Pleural	5.0
0141	By needle aspiration	2.0
Endoscopy	Diagnostic endoscopy is examination by insertion of an instrument, including biopsy or any insertion of dye, without operative procedure. Operative endoscopy includes removal of tissue (except biopsy), tumor (benign or malignant), stones, or foreign body; fulguration, drainage, or insertion of radioactive substance.	
	Bronchoscopy	
0150	Diagnostic, with or without biopsy	4.5
	Operative	
0151	Removal of tumors or foreign bodies	7.5
0152	All other	4.5
0154	Culdoscopy, with or without biopsy	2.5
	Cystoscopy	
	Diagnostic, with or without biopsy	
0158	Without ureteral catheterization	2.5
0159	With ureteral catheterization	3.5
	Operative	
0160	Transurethral resection of bladder neck, or bladder tumors, or crushing of bladder stones	11.0
0161	All other	5.0
	Esophagoscopy	
0162	Diagnostic, with or without biopsy	4.5
	Operative	
0163	Removal of tumors or foreign bodies	6.0
0164	All other	4.5
0166	Gastrosocopy, with or without biopsy	4.5
	Laryngoscopy	
0170	Diagnostic, with or without biopsy	3.0
	Operative	
0171	Removal of tumors or foreign bodies	6.0
0172	All other	4.5
0174	Peritoneoscopy, with or without biopsy	3.0
	Proctoscopy	
0178	Diagnostic, with or without biopsy	1.0
0179	Operative	2.5
	Sigmoidoscopy or Proctosigmoidoscopy	
0182	Diagnostic, with or without biopsy	1.5
0183	Operative	3.0
	Thoracoscopy	
0186	Diagnostic, with or without biopsy	5.0
0187	Operative	8.0

EXHIBIT II—Continued

Code Number	Procedure	Relative Value
<b>GLANDS (not elsewhere specified)</b>		
Lymph glands or nodes		
0310	Gland or glands, excision of, superficial	2.5
	Radical resection of lymph glands or nodes	
	Axillary	
0314	Unilateral	15.0
0315	Bilateral	25.0
	Cervical, upper neck	
0317	Unilateral	15.0
0318	Bilateral	25.0
	Inguinal	
0320	Unilateral	15.0
0321	Bilateral	25.0
Mammary glands		
	Mastectomy	
	Partial	
0329	Unilateral	5.0
0330	Bilateral	7.5
0331	Total	10.0
0332	Radical, with axillary node dissection	20.0
	Excision of benign tumors or cysts	
0335	Unilateral	5.0
0336	Bilateral	7.5
Parathyroid gland		
0340	Parathyroidectomy	15.0
Salivary glands, submaxillary, parotid, or sublingual		
	Removal of gland, total	
0350	Submaxillary	10.0
0351	Parotid	20.0
0352	Sublingual	5.0
	Removal of stone, sialolithotomy	
0355	From duct, by incision	1.5
0356	From gland substance	5.0
Thymus gland		
0360	Thymectomy	22.5
Thyroid gland and goiter		
0370	Thyroidectomy, total or subtotal	17.5
0371	Thyroid lobectomy, hemithyroidectomy	15.0
0372	Excision of thyroid adenoma or cyst	12.5
<b>INJURIES AND INFECTIONS</b>		
Abscesses, incision and drainage (not involving internal organs or orifices and not elsewhere specified)		
	Abscess	
	Deep	
0510	One abscess	2.0
0511	Each additional abscess	1.0
	Superficial	
0512	One abscess	.75
0513	Each additional abscess	.4
	Maximum	2.5
Burns, debridement		
	Localized burn	
0521	Second degree	S.C.
0522	Third degree	S.C.
0523	More extensive burn, not localized	S.C.
Other infections and injuries		
	Accidental lacerations of skin structures, suture of	
	Face, neck, genitalia, and hands, all lacerations combined	
0550	1 inch or less	1.5
0551	More than 1 inch up to 2 inches	2.0

EXHIBIT II—Continued

Code Number	Procedure	Relative Value
<b>INJURIES AND INFECTIONS (Continued)</b>		
0552	More than 2 inches up to 4 inches	3.0
0553	More than 4 inches	S.C.
	Other than face, neck, genitalia, and hands, all lacerations combined	
0555	1-3 sutures; or 1 inch or less	.75
0556	4-6 sutures; or more than 1 inch up to 2 inches	1.0
0557	7-12 sutures; or more than 2 inches up to 4 inches	1.5
0558	13-20 sutures; or more than 4 inches up to 6 inches	2.0
0559	More than 20 sutures; or more than 6 inches	S.C.
0570	Cellulitis, incisions and drainage for Carbuncle	1.5
0571	Incisions and drainage of	1.5
0572	Excision of	2.5
	Foreign body, incision and removal of (except from eye or body cavity)	
0580	Superficial	1.0
0581	Deep seated	S.C.
	Nail bed or nail fold, excision of	
	Partial	
0590	One	1.5
0591	Each additional	.5
	Complete	
0592	One	2.0
0593	Each additional	.5

**PLASTIC SURGERY**

	Epispadias or hypospadias	
0710	Single stage, complete operation	15.0
0711	Two stage, complete operation, including cystostomy with subsequent closure and/or straightening of chordee	20.0
0712	Three or more stages, complete operation	30.0
	Labioplasty or cheiloplasty for harelip, complete procedure	
0720	Unilateral	17.5
0721	Bilateral	25.0
0730	Otoplasty	S.C.
0750	Rhinoplasty	S.C.
	Scar tissue or keloid, excision and plastic repair other than by skin grafting or Z-plasty	
	The values shown below should be doubled for the excision of scars from the face, neck, genitalia or hands. The listed values apply to the excision of scars from other body areas.	
	Linear scars or keloids	
	Total length of all scars in inches	
0754	One inch or less	1.0
0755	Each additional inch or part thereof	.5
	Nonlinear scars or keloids	
	One	
0756	$\frac{1}{2}$ inch or less in diameter	1.0
0757	More than $\frac{1}{2}$ inch in diameter	2.0
	Each additional	
0758	$\frac{1}{2}$ inch or less in diameter	.5
0759	More than $\frac{1}{2}$ inch in diameter	1.0

**Skin grafting (not elsewhere specified)**

The value includes the excision of any lesion or abnormality, the surgical preparation and repair of the defect, and the procurement and placing of any grafts. The additional value for skin grafting of the donor site is 50% of the appropriate skin graft value.

The values depend upon the surgical area and are calculated by multiplying the listed values by an appropriate factor as follows:



EXHIBIT II—Continued

Code Number	Procedure	Relative Value
<b>PLASTIC SURGERY (Continued)</b>		
	<i>Surgical area</i>	<i>Factor</i>
	Eyelids and lips.....	2½ times
	Forehead, cheeks, chin, mouth, neck, genitalia, axilla, hands or feet.....	2 times
	Arms and legs.....	1½ times
	Trunk and scalp.....	1 times
	Direct, rotation, or pedicle flap	
0760	Less than 2 square inches	3.0
0761	Two or more square inches	6.0
	Free skin grafts	
	Split or pinch skin grafts	
	Total area of all grafts per operation	
0762	Less than 2 square inches	3.0
0763	2 to 32 square inches	6.0
0764	Each additional 32 square inches or part thereof	3.0
	Full thickness	
	Total area of all grafts per operation	
0765	Less than 3 square inches	6.0
0766	Each additional 3 square inches or part thereof	3.0
	Tube, delayed pedicle, or delayed direct flap	
0767	Initial stage	6.0
0768	Subsequent delay or intermediate transfer, each	4.5
0769	Subsequent sectioning of pedicle of tube or flap graft	4.5
	Staphylorrhaphy or palatoplasty	
0780	First stage	15.0
0781	Each additional stage	7.5
	Syndactylism, repair of web	
0784	Without graft	7.5
0785	With graft	10.0
	Talipes equinus, correction of	
	By manipulation and cast under general anesthesia	
0790	Unilateral	1.5
0791	Bilateral	2.5
0792	By open operation	15.0
	Z-plasty	
	The value includes the excision of any lesion or abnormality and enlargement of the defect by one or more relaxing Z incisions with plastic closure by suturing. The values shown below should be doubled for the excision of lesions from the face, neck, genitalia or hands. The listed values apply to the excision of lesions from other body areas.	
	One lesion	
0795	1 inch or less in diameter	3.0
0796	More than 1 inch in diameter	6.0
	Each additional lesion	
0797	1 inch or less in diameter	1.5
0798	More than 1 inch in diameter	3.0

**TUMORS OR CYSTS**

Cysts (not elsewhere specified)

0905	Baker's cyst, excision of	10.0
	Branchial cyst, excision of	
0910	Superficial	5.0
0911	Deep	15.0
	Pilonidal cyst or sinus	
0912	Incision of	2.0
0913	Excision of	9.0
0916	Sebaceous cyst, excision of	1.5
0918	Thyroglossal cyst, excision of	11.0

EXHIBIT II—Continued

Code Number	Procedure	Relative Value
<b>TUMORS OR CYSTS (Continued)</b>		
Tumors (not elsewhere specified)		
Removal by surgical procedure		
Benign tumors		
Superficial, including warts		
By excision, tumors of the face, neck, genitalia, hands or feet		
0930	One tumor	2.0
0931	Each additional tumor	1.0
By excision, tumors of other body areas		
0932	One tumor	1.0
0933	Each additional tumor	.5
By electrocauterization or fulguration, including curettage, per day of such treatment		
0934	One tumor, except plantar wart	.5
0935	More than one tumor, or each plantar wart	1.0
Malignant tumors		
Face, lip, or skin, simple excision of		
0937	One	5.0
0938	Each additional	2.5
0939	Not elsewhere specified	S.C.

MUSCULOSKELETAL SYSTEM

AMPUTATIONS

1010	Arm, through humerus	12.5
1012	Elbow, disarticulation at	12.5
Finger or thumb (one or more phalanges)		
1014	One	2.5
1015	Each additional	1.5
1018	Foot, below ankle	12.5
1020	Forearm, through radius and ulna	12.5
1022	Hand, disarticulation at wrist	12.5
1024	Hip, disarticulation at	25.0
1026	Knee, disarticulation at	15.0
1028	Leg, through tibia and fibula, or at ankle	15.0
1030	Scapulothoracic amputation	30.0
1032	Shoulder, disarticulation at	20.0
1034	Thigh, through femur	15.0
Toe (one or more phalanges)		
1036	One	2.5
1037	Each additional	1.5

BONES

Bone or periosteal graft, autogenous, for nonunion, including the procurement and placing of graft		
1210	Femur	27.5
1211	Humerus or tibia	22.5
1212	Radius or ulna	17.5
1220	Coccyx, excision of	7.5
Excision of bone cyst, chondroma, other benign tumor, or exostosis, except jaw and palate		
Femur, tibia, fibula, humerus, radius or ulna		
1240	Without autogenous bone implant	12.5
1241	With autogenous bone implant	17.5
Bones of hands and feet		
1242	Without autogenous bone implant	6.0
1243	With autogenous bone implant	10.0
1244	Other bones	S.C.
Hallux valgus, operation for, radical		
1250	Unilateral	8.0
1251	Bilateral	12.0

EXHIBIT II—Continued

Code Number	Procedure	Relative Value
<b>BONES (Continued)</b>		
1255	Lengthening of femur, tibia, humerus, radius or ulna, including bone grafting	27.5
1258	Metal band, plate, screws or nails, removal of Osteotomy, complete	5.0
	Carpal bones	
1260	One	8.0
1261	More than one	10.0
	Metacarpal bone	
1262	One	6.0
1263	Each additional	3.0
	Metatarsal bone	
1264	One	6.0
1265	Each additional	3.0
	Phalanx	
1270	One	4.0
1271	Each additional	3.0
1272	Sesamoid bones of foot	4.0
	Tarsal bones	
1273	One	8.0
1274	More than one	10.0
	Osteomyelitis or bone abscess, operation for	
	Partial osteotomy or excision of bone, saucerization (Orr operation, craterization, guttering), including incidental sequestrectomy	
1280	Femur, tibia, fibula, humerus, radius, ulna	12.5
1281	Bones of hands and feet	6.0
1282	Other bones	S.C.
1290	Sequestrectomy, independent procedure	S.C.
	Shortening of bone including bone grafting (osteoplasty)	
1294	Femur	24.0
1295	Tibia, humerus	15.0
1296	Radius, ulna	10.0
1297	Mandible for prognathism or micrognathism, one or more stages	30.0
<b>BURSAE</b>		
	Aspiration	
1410	Initial	1.0
1411	Subsequent	.5
1420	Bursectomy (excision of bursa)	6.0
	Bursotomy	
1430	For removal of calcareous deposits	4.5
1431	For drainage	2.0
	Irrigation by multiple needles	
1440	Initial	1.0
1441	Subsequent	.5
<b>DISLOCATIONS</b>		
	Closed reduction is correction of displacement by manipulation without incision; open reduction is correction with incision.	
	Astragalo-tarsal bones	
1610	Closed reduction	4.0
1611	Open reduction	10.0
	Carpal bones, one or more	
1614	Closed reduction	3.0
1615	Open reduction	8.0
	Clavicle, sterno or acromioclavicular dislocation	
1618	Closed reduction	3.0
1619	Open reduction	10.0
	Elbow	
1622	Closed reduction	4.0

EXHIBIT II—Continued

Code Number	Procedure	Relative Value
<b>DISLOCATIONS (Continued)</b>		
1623	Open reduction Finger or thumb, one or more joints	10.0
	One finger	
1626	Closed reduction	1.0
1627	Open reduction	3.0
	Each additional finger	
1628	Closed reduction	.5
1629	Open reduction	1.5
	Hip	
1632	Closed reduction including congenital (unilateral or bilateral)	7.5
1633	Open reduction	17.5
	Knee, except patella	
1636	Closed reduction	5.0
1637	Open reduction	15.0
	Metacarpal bone	
	One	
1640	Closed reduction	2.0
1641	Open reduction	5.0
	Each additional	
1642	Closed reduction	1.0
1643	Open reduction	2.5
	Metatarsal bone	
	One	
1646	Closed reduction	2.0
1647	Open reduction	5.0
	Each additional	
1648	Closed reduction	1.0
1649	Open reduction	2.5
	Patella	
1652	Closed reduction	2.0
1653	Open reduction	10.0
	Shoulder	
1658	Closed reduction	3.5
1659	Open reduction	12.5
	Tarsal bones, one or more	
1662	Closed reduction	4.0
1663	Open reduction	10.0
1666	Temporomandibular, closed reduction	1.5
	Toe, one or more joints	
	One toe	
1668	Closed reduction	1.0
1669	Open reduction	3.0
	Each additional toe	
1670	Closed reduction	.5
1671	Open reduction	1.5
	Vertebrae	
1674	Closed reduction, under general anesthesia	10.0
1675	Open reduction	22.5

**FRACTURES**

Epiphyseal separations are considered fractures of the bone involved. Two or more fractures of a bone and comminuted (splintered) fractures are considered as a single fracture of the bone involved.

Closed reduction is correction of displacement of a simple or compound fracture by manipulation without incision including application of casts or traction. The value for closed reduction includes debridement at fracture site.

For closed reduction with skeletal pinning and external fixation, the value is  $1\frac{1}{2}$  times the value for closed reduction except where specified to the contrary.

EXHIBIT II—*Continued*

Code Number	Procedure	Relative Value
FRACTURES (Continued)		
	Open reduction is correction of displacement by manipulation and incision with or without skeletal traction or metallic fixation.	
Skull		
2010	Nonoperative treatment of fracture of skull	2.5
	Depressed fracture of skull	
2018	Operation involving brain tissue or reduction by craniotomy	30.0
2019	Others	15.0
Facial bones		
	Malar bone including zygomatic process	
2020	Closed reduction	2.0
	Open reduction	
2021	External approach only	9.0
2022	External and intraoral approaches	15.0
	Mandible, unilateral or bilateral	
	Closed reduction	
2024	Without wiring of teeth	3.0
2025	With wiring of teeth	10.0
2026	Skeletal pinning with external fixation	12.5
2027	Open reduction, with or without wiring of teeth	15.0
	Maxilla (excluding alveolar process), including malar	
	Closed reduction	
2030	Without wiring of teeth	2.0
2031	With wiring of teeth	10.0
2032	Open reduction, with or without wiring of teeth	15.0
	Nasal bones	
2034	Closed reduction	2.0
2035	Open reduction	6.5
Upper extremity		
	Carpal bones, one or more, including navicular	
2040	Closed reduction	4.0
2041	Open reduction	8.0
	Elbow, distal end of humerus or proximal end of radius or ulna, one or more bones	
2050	Closed reduction	6.0
2051	Open reduction	15.0
	Finger or thumb	
	One	
2054	Closed reduction	2.0
2055	Open reduction	4.0
	Each additional	
2056	Closed reduction	1.0
2057	Open reduction	2.0
	Humerus (except elbow)	
2060	Closed reduction	7.5
2061	Open reduction	15.0
	Metacarpal	
	One	
	Closed reduction	
	Without skeletal pinning	2.5
2071	Skeletal pinning with external fixation	4.5
2072	Open reduction	6.0
	Each additional	
	Closed reduction	
2073	Without skeletal pinning	1.5
2074	Skeletal pinning with external fixation	2.5
2075	Open reduction	3.0

EXHIBIT II—Continued

Code Number	Procedure	Relative Value
<b>FRACTURES (Continued)</b>		
	Radius, including Colles' (except elbow)	
2080	Closed reduction	5.0
2081	Open reduction	10.0
	Radius and ulna (except elbow)	
2084	Closed reduction	7.0
2085	Open reduction	14.0
	Ulna (except elbow)	
2090	Closed reduction	4.0
2091	Open reduction	10.0
<b>Spine and trunk</b>		
	Clavicle	
2100	Closed reduction	3.0
2101	Open reduction	10.0
2110	Coccyx, reduction of	1.5
2130	Ribs, closed reduction, one or more	2.0
2140	Sacrum, closed reduction	4.0
	Scapula	
2150	Closed reduction	3.5
2151	Open reduction	10.0
	Sternum	
2154	Closed reduction	1.5
2155	Depressed, open reduction	7.5
	Vertebra, except coccyx, body of, one or more	
2160	Closed reduction	10.0
2161	Open reduction	22.5
	Vertebra, lateral or spinous process of, one or more	
2170	Closed reduction	2.5
2171	Open reduction	10.0
<b>Pelvis</b>		
	Innominate bone (ilium, ischium, or os pubis), one or more	
	Closed reduction	
2180	Without acetabulum displacement	4.0
2181	With acetabulum displacement	7.5
2182	Open reduction	17.5
<b>Lower extremity</b>		
	Ankle	
	Malleolus of tibia or fibula	
2200	Closed reduction	5.0
2201	Open reduction	10.0
	Bimalleolar (Potts)	
2202	Closed reduction	6.0
2203	Open reduction	15.0
	Trimalleolar	
2204	Closed reduction	7.5
2205	Open reduction	17.5
	Astragalus and/or os calcis	
2210	Closed reduction	5.0
2211	Open reduction	12.5
	Femur (except knee)	
2216	Closed reduction	12.0
2217	Open reduction	24.0
	Fibula (except ankle)	
2222	Closed reduction	4.0
2223	Open reduction	8.0
	Knee, distal end of femur or proximal end of tibia, one or both bones	
2228	Closed reduction	7.5
2229	Open reduction	15.0

EXHIBIT II—*Continued*

Code Number	Procedure	Relative Value
<b>FRACTURES (Continued)</b>		
	Metatarsal bone	
	One	
2232	Closed reduction	2.5
2233	Open reduction	6.0
	Each additional	
2236	Closed reduction	1.5
2237	Open reduction	3.0
	Patella	
2258	Closed reduction	5.0
2259	Open reduction	10.0
	Tarsal bones (except astragalus and os calcis), one or more	
2270	Closed reduction	4.0
2271	Open reduction	8.0
	Tibia (except ankle and knee)	
2280	Closed reduction	7.5
2281	Open reduction	15.0
	Tibia and fibula (except ankle)	
2284	Closed reduction	10.0
2285	Open reduction	20.0
	Toe	
	One	
2292	Closed reduction	2.0
2293	Open reduction	4.0
	Each additional	
2294	Closed reduction	1.0
2295	Open reduction	2.0
<b>JOINTS</b>		
Arthrodesis (operative ankylosis) or arthroectomy with or without tendon transplantation		
2410	Ankle	15.0
2411	Elbow	15.0
2412	Foot, triple arthrodesis	17.5
	Hammer toe	
2413	One	6.0
2414	Each additional	3.0
2415	Hip	27.5
2416	Knee	17.5
	Intervertebral disc, excision of	
2417	Without spinal fusion	22.5
2418	With spinal fusion	30.0
2419	Semilunar cartilage, excision	12.5
2420	Shoulder	17.5
2422	Spine, including sacro-iliac, not including coccyx	22.5
2423	Temporomandibular joint, meniscectomy	15.0
2424	Wrist	15.0
Arthroplasty		
2430	Ankle	15.0
2432	Elbow	15.0
2434	Hip	27.5
2436	Knee	20.0
	Metatarsal-phalangeal joints (bunionectomy)	
2440	One	8.0
2441	Each additional	4.0
2442	Shoulder including Nicola or Bankhardt operation	17.5
2444	Wrist	15.0
Arthrotoomy or capsulotomy with exploration, drainage or removal of loose bodies		
2450	Ankle	10.0
2451	Elbow	10.0
2452	Hip	17.5
2455	Knee	12.5

EXHIBIT II—Continued

Code Number	Procedure	Relative Value
<b>JOINTS (Continued)</b>		
2457	Shoulder	12.5
2458	Wrist	10.0
<b>Synovectomy</b>		
2470	Ank e	12.5
2471	Elbow	12.5
2472	Hip	20.0
2475	Knee, except Baker's cyst	15.0
<b>Miscellaneous</b>		
	Arthrocentesis or tapping of joint	
2491	Initial	1.0
2492	Subsequent	.5
2495	Manipulation of frozen shoulder or hip joint under general or spinal anesthesia, or brachial block	4.0
<b>MUSCLES</b>		
	Division of scalenus anticus muscle	
2610	Without cervical rib resection	7.5
2611	With cervical rib resection	12.5
2614	Division of sternocleidomastoid muscle for wry neck (torticollis)	7.5
	Repair or suture of ruptured muscle	
2630	Quadriceps	10.0
2631	Biceps	7.5
2632	Diaphragm	20.0
2633	Other	S.C.
<b>TENDONS</b>		
<b>Including tendon sheaths, fascia and ligaments</b>		
2810	Excision of ganglion	4.0
2814	Fasciectomy for Dupuytren's contracture	12.5
	Graft, transfer or transplant of tendon, distal to shoulder or hip	
2820	Single	11.0
2821	Each additional tendon	2.5
2822	Each additional incision for rerouting or retrieving tendon, or procuring graft	2.5
2830	Lengthening or shortening of tendon	7.5
	Suture of tendon laceration	
2840	One	5.0
2841	Each additional	2.5
	Tenotomy, one or more tendons	
	Fingers	
2850	One	2.5
2851	Each additional	1.5
	Other than fingers	
2852	Subcutaneous	3.0
2853	Open	10.0
<b>EYE, EAR, NOSE, AND THROAT</b>		
<b>EAR</b>		
3010	Amputation of ear	10.0
	Aural polyps, removal of, one or more, external canal	
3020	Unilateral	1.5
3021	Bilateral	3.0
3030	Fenestration operation for otosclerosis	30.0
3050	Labyrinthectomy	30.0
3060	Labyrinthotomy	20.0



EXHIBIT II—Continued

Code Number	Procedure	Relative Value
EAR (Continued)		
	Mastoidectomy	
3070	Simple	15.0
3071	Radical	20.0
3080	Myringotomy or tympanotomy, including paracentesis tympani	1.5
3090	Stapes mobilization	15.0
EYE		
	Chalazion, excision or curettage	
3212	Single	1.5
3213	Multiple	2.5
	Conjunctiva	
3217	Excision of lesions, one or more, each eye	2.0
3218	Free graft of conjunctiva or mucous membrane	10.0
3219	Rotation flap operation	4.0
3220	Suture of laceration	2.5
3223	Cornea or sclera, suture of perforating wound	10.0
3226	Corneal paracentesis	3.5
3228	Corneal transplantation	27.5
3230	Corneal or scleral ulcer, cauterization or curettage of	1.5
3232	Dacryocystectomy or dacryoadenectomy	10.0
3234	Dacryocystorhinostomy with or without anterior ethmoidectomy	15.0
3238	Dacryocystotomy or dacryocystostomy	2.5
	Detached retina, electrocoagulation, including sclerectomy or scleral buckle	
3240	Initial	25.0
3241	Subsequent	12.5
	Entropion or ectropion	
3242	Cautery puncture	1.5
3243	Plastic operation for correction with or without rotation graft	11.0
	Enucleation or evisceration of eyeball	
3246	Without implantation	10.0
3247	With implantation	15.0
3250	Extraction of lens for cataract	20.0
	Foreign bodies	
3252	Imbedded in cornea or sclera, removal by magnet or spud	1.0
	Intraocular	
3253	Removal by magnet without sclerotomy	10.0
3254	Removal by sclerotomy with or without magnet	15.0
3255	Removal from anterior chamber by keratotomy with or without magnet	12.5
3256	Goniotomy	10.0
3257	Hordeolum, operation for	1.0
3258	Iridectomy	12.5
3259	Iridotomy	7.5
3260	Keratotomy except pterygium	10.0
3261	Keratotomy except for foreign body	5.0
	Lacrimal duct, dilation, probing or catheterization, or any combination of	
3262	Initial	1.0
3263	Subsequent	.5
	Needling of lens, discission	
	Primary, congenital or traumatic cataract	
3264	Initial	7.5
	Subsequent	4.0
3265	Secondary membrane (after cataract surgery)	5.0
3266	Orbit, reconstruction of	S.C.
	Pterygium, excision or transplant	
3267	Without graft	4.0
3268	With graft	7.5
3269	Ptosis, muscle operation for	13.5

EXHIBIT II—Continued

Code Number	Procedure	Relative Value
<b>EYE (Continued)</b>		
3270	Scleral paracentesis (posterior sclerotomy)	7.5
3271	Sclectomy for glaucoma	17.5
	Strabismus, operation for	
3272	One eye	13.5
3273	Both eyes	17.5
3274	Each additional operation, one or both eyes	7.5
<b>TONGUE</b>		
3436	Frenotomy or frenectomy	1.0
	Glossectomy	
3442	Complete	17.5
3446	Hemiglossectomy	10.0
3447	Local excision of lesion	2.5
3448	With radical neck dissection	25.0
<b>NOSE AND THROAT</b>		
3610	Adenoidectomy only	3.0
	Laryngectomy	
3614	Without radical neck dissection	22.5
3615	With radical neck dissection	30.0
	Nasal polyps, removal of one or more, one or more stages	
3622	Unilateral	1.5
3623	Bilateral	2.5
3628	Nasal septum, submucous resection of, with or without reconstruction of the columella	10.0
	Sinuses, maxillary puncture of	
	Unilateral	
3640	Initial	1.0
3641	Subsequent	.5
	Bilateral	
3642	Initial	1.5
3643	Subsequent	.5
	Sinusotomy	
	Frontal external	
3652	Simple (trephine operation)	6.0
3653	Radical	15.0
	Maxillary	
	Intranasal antrum window	
3654	Unilateral	4.0
3655	Bilateral	6.0
	Radical (Caldwell-Luc) operation	
3660	Unilateral	12.0
3661	Bilateral	18.0
	Sphenoid or ethmoid or both	
	Intranasal, without antrum window	
3666	Unilateral	6.0
3667	Bilateral	9.0
	Intranasal, with antrum window	
3668	Unilateral	8.0
3669	Bilateral	12.0
	External	
3670	Unilateral	12.0
3671	Bilateral	18.0
	Combined external frontal, ethmoid and sphenoid	
3675	Unilateral	20.0
3676	Bilateral	27.5
3680	Tonsillar or peritonsillar abscess, incision and drainage	1.5
3684	Tonsillectomy with or without adenoidectomy	4.0
3688	Tracheotomy	6.0
3690	Turbinates, electrocauterization or infraction of, unilateral or bilateral	.75

EXHIBIT II—Continued

Code Number	Procedure	Relative Value
<b>NOSE AND THROAT (Continued)</b>		
	Turbinectomy	
3692	Unilateral	2.5
3693	Bilateral	3.5
3696	Uvulectomy	1.5
<b>HEART AND BLOOD VESSELS</b>		
<b>ARTERIES AND VEINS</b>		
<b>Arteries</b>		
	Artery excision with homograft or prosthesis	
4010	Intracranial	30.0
4011	Intra-abdominal	30.0
4012	Intrathoracic	30.0
4013	Extremities	25.0
	Arteriography	
	Peripheral	
4016	Unilateral	2.0
4017	Bilateral	3.0
	Cerebral or carotid	
4018	Unilateral	5.0
4019	Bilateral	7.5
4020	Aorta, lumbar or retrograde	4.0
	Arterial anastomosis	
4024	Aortic anastomosis	30.0
4025	Pulmonary anastomosis (Block, Potts or Blalock)	30.0
	Arteriotomy or endarterectomy, for exploration or removal of embolus	
4032	Intrathoracic	20.0
4033	Intra-abdominal	17.5
4034	Neck or extremities	12.5
4036	Coarctation of aorta, with or without graft	30.0
	Ligation	
4040	Carotid artery	10.0
4041	Internal mammary, unilateral or bilateral	10.0
4050	Patent ductus, ligation of	30.0
<b>Veins</b>		
4220	Cut down to expose vein	1.5
	Ligation for other than varicosity	
4230	Common iliac vein	12.5
4231	Femoral or jugular	7.5
4232	Inferior Vena cava	17.5
	Thrombophlebectomy	
4260	Trunk	15.0
4261	Extremities	10.0
	Varicose veins	
	Injection treatment, unilateral or bilateral	
4272	Per day of treatment	.5
	Maximum	5.0
	Ligation, with or without division, retrograde injection or distal interruptions	
	Saphenous vein, long	
	Without stripping	
4276	Unilateral	7.5
4277	Bilateral	11.0
	With stripping, on same or successive days	
4278	Unilateral	10.0
4279	Bilateral	15.0
	Saphenous vein, short	
	Without stripping	
4280	Unilateral	4.0
4281	Bilateral	6.0
	With stripping, on same or successive days	
4282	Unilateral	6.0
4283	Bilateral	9.0
	Saphenous vein, long and short	
	Without stripping	
4284	Unilateral	9.0
4285	Bilateral	13.5

EXHIBIT II—Continued

Code Number	Procedure	Relative Value
<b>ARTERIES AND VEINS (Continued)</b>		
	With stripping, on same or successive days	
4286	Unilateral	12.0
4287	Bilateral	18.0
	Venous anastomosis	
4292	Porto-caval	30.0
4293	Mesenteric	30.0
4294	Spleno-renal	30.0
<b>HEART</b>		
4416	Cardiotomy or cardiorrhaphy with exploration or removal of foreign body	30.0
4424	Commissurotomy or valvotomy	30.0
4464	Pericardiectomy	30.0
4468	Pericardiocentesis (tapping)	2.0
4472	Pericardiotomy	25.0
4490	Tetralogy of Fallot, operation for	30.0
<b>THORAX OR CHEST</b>		
	Esophagus	
	Dilation	
5110	Initial	1.5
5111	Subsequent	1.0
	Removal of diverticulum	
5112	Cervical approach	17.5
5113	Thoracic approach	30.0
5114	Resection	30.0
	Lobectomy	
5210	Total, subtotal or segmental	30.0
5214	Wedge resection	22.5
5310	Pleurectomy or pleural decortication, any type	25.0
5410	Pneumolysis, extrapleural or intrapleural (open operation)	20.0
5420	Pneumonectomy, total	30.0
5430	Pneumonotomy, complete procedure	15.0
	Pneumothorax	
5440	Initial	2.0
5441	Subsequent	.75
	Thoracoplasty	
5510	First stage	20.0
5512	Each subsequent stage	10.0
	Thoracentesis	
5610	Initial	1.5
5611	Subsequent	.5
	Thoracotomy, including drainage	
5620	Without rib resection, for empyema or pleural biopsy	5.0
5621	With rib resection, for empyema	10.0
5622	Exploratory, with control of hemorrhage, biopsy of lung, or cardiac massage	15.0
<b>ABDOMEN</b>		
	Abdominal paracentesis (tapping)	
6010	Initial	1.5
6011	Subsequent	.5
	Abscess, intra-abdominal, incision and drainage of	
6020	Appendiceal abscess	10.0
6021	Subdiaphragmatic or subphrenic	15.0
6030	Adhesions, division of	12.5
6040	Appendectomy, with or without incision and drainage of appendiceal abscess	11.0
6100	Cholecystectomy, with or without exploration of common duct	17.5
6110	Cholecystoduodenostomy or cholecystoenterostomy	15.0
6120	Cholecystotomy or cholecystostomy	15.0
6130	Choledochotomy or choledochostomy	17.5

EXHIBIT II—Continued

Code Number	Procedure	Relative Value
<b>ABDOMEN (Continued)</b>		
6200	Closure of colostomy or enterostomy	10.0
	Colon resection	
6210	Partial, with or without colostomy	25.0
6211	Total	30.0
6220	Colostomy	12.5
6250	Common duct, resection or choledochoplasty	25.0
6270	Diverticulum (Meckel's), excision of	11.0
6300	Enterectomy, small intestine, with or without anastomosis	20.0
6310	Enterorrhaphy, for perforated ulcer, wound or rupture	15.0
6320	Enterotomy, including removal of foreign body	15.0
6330	Excision of one or more intestinal lesions, not requiring anastomosis	15.0
	Gastrectomy, with or without vagotomy	
6400	Total	30.0
6401	Partial	25.0
6410	Gastric or duodenal ulcer, perforation, closure of	15.0
6420	Gastroenterostomy, gastrojejunostomy, gastroduodenostomy	20.0
6430	Gastrostomy	12.5
6440	Gastrotomy	15.0
6470	Hepatectomy, partial	20.0
6480	Hepatorrhaphy	15.0
	Herniotomy, herniorrhaphy or hernioplasty	
	Single	
6499	Inguinal, femoral, or umbilical	11.0
6500	Ventral or incisional	12.5
6501	Bilateral, inguinal or femoral	15.0
6502	Hiatus or diaphragmatic	25.0
6600	Intestinal obstruction, operation for, not requiring resection	15.0
6610	Intestine, reduction of volvulus or intussusception by incision without resection	15.0
6620	Laparotomy, exploratory	11.0
6625	Pancreatectomy, subtotal	22.5
6630	Pancreatotomy for adhesions, drainage or removal of calculi	15.0
	Pneumoperitoneum	
6650	Initial	1.5
6651	Subsequent	.5
6700	Pyloric stenosis, operation for (Ramstedt's operation in infants)	12.5
6710	Splenectomy	20.0
6715	Splenorrhaphy	15.0
6770	Vagotomy	15.0

PROCTOLOGY AND UROLOGY

PROCTOLOGICAL SURGERY

	Abscess, incision and drainage	
7010	Perianal or perirectal	2.0
7011	Ischiorectal	3.5
7030	Cryptectomy, single or multiple	2.0
7040	Fissurectomy with or without sphincterotomy, single or multiple	4.0
	Fistulectomy or Fistulotomy	
7050	Single	6.5
7051	Multiple	9.0
7060	Fistulectomy or Fistulotomy with incision and drainage of ischiorectal abscess	9.0
	Hemorrhoidectomy (by excision)	
7070	External except tabs or tags	2.5
	External and internal, or internal	
7072	Without fistulectomy	8.0
7073	With fistulectomy	10.0

EXHIBIT II—Continued

Code Number	Procedure	Relative Value
PROCTOLOGICAL SURGERY (Continued)		
	Hemorrhoids, injections of sclerosing solution	
7076	Per day of injection	.5
	Maximum	3.0
7077	Hemorrhoids, tabs or tags, excision of	1.5
7078	Hemorrhoids, thrombosed, incision or removal of thrombus	1.0
7080	Papillectomy, one or more	1.5
7100	Proctectomy, complete, combined abdominal-perineal procedure, one or more stages	30.0
	Prolapsed rectum, repair of	
7150	Abdominal	15.0
7151	Wiring (Thiersch)	6.0
	Pruritus ani	
7170	Under cutting for	5.0
7171	Injection procedure by destructive agent	2.5
7180	Rectal polyps, removal of one or more by proctoscopy	2.5
7190	Sphincter, anal, dilation of, under anesthesia	1.0
7194	Sphincterotomy, not in the course of another operation	2.5
UROLOGICAL SURGERY		
7510	Abscess perirenal or renal, incision and drainage	12.5
7512	Abscess, prostatic, external incision and drainage	7.5
	Circumcision	
7520	Less than 1 year old	1.0
7521	1 year old or more	2.0
	Cystectomy	
7540	Complete, including transplantation of ureters	30.0
7541	Segmental or excision of diverticulum	17.5
7544	Cystorrhaphy, for wound or rupture	12.5
	Cystotomy	
7546	Exploration or fulguration	12.5
7547	Excision of bladder tumor	15.0
7548	Cystolithotomy	12.5
7549	Cystostomy	11.0
	Epididymectomy	
7600	Unilateral	7.5
7601	Bilateral	10.0
	Epispadias or hypospadias, see Plastic Surgery	
	Hydrocele	
	Paracentesis or aspiration including injection of sclerosing solution	
7603	Initial	1.5
7604	Subsequent	.5
	Excision	
7605	Unilateral	7.5
7607	Bilateral	10.0
7620	Meatotomy, urethral	1.5
7650	Nephrectomy or heminephrectomy	22.5
7652	Nephrolithotomy	20.0
7654	Nephropexy	17.5
7658	Nephrorrhaphy for kidney wound or injury	20.0
7660	Nephrostomy, including drainage	17.5
7662	Nephrotomy for exploration	17.5
	Orchidectomy	
	Simple	
7680	Unilateral	7.5
7681	Bilateral	10.0
7682	Radical, unilateral or bilateral, with retroperitoneal gland dissection	30.0
7686	Orchidopexy, one or more stages, with or without hernia repair	15.0
	Penis, amputation of	
7690	Simple	12.5

EXHIBIT II—Continued

Code Number	Procedure	Relative Value
<b>UROLOGICAL SURGERY (Continued)</b>		
7691	Radical with inguinal node dissection	22.5
	Prostatectomy	
7700	Perineal	27.5
7701	Retropubic	25.0
7702	Suprapubic, one or more stages	25.0
7703	Transurethral, one or more stages including control of postoperative bleeding	20.0
7720	Pyelotomy or pyelolithotomy with removal of calculus	17.5
7721	Pyelostomy, including drainage	15.0
7730	Renal capsulectomy, or decapsulation of kidney	15.0
	Ureteral transplantation to intestine	
7800	Unilateral	17.5
7801	Bilateral	25.0
7804	Ureterolithotomy, open	15.0
7806	Ureteroplasty for stricture	20.0
	Urethrotomy	
7812	External or anterior	3.5
7813	Perineal or posterior	7.5
	Urinary fistula, excision or closure of	
7840	Bladder (any type)	15.0
7841	Urethral (any type)	10.0
	Varicocelectomy	
7860	Unilateral	7.5
7861	Bilateral	10.0
7870	Vasectomy, unilateral or bilateral	3.0
7880	Vesiculectomy, seminal, unilateral or bilateral	17.5

*GYNECOLOGY AND OBSTETRICS*

**GYNECOLOGICAL SURGERY**

	Bartholin's or Skene's glands	
	Excision of gland or cyst	
8009	Bartholin	5.0
8010	Skene	1.0
	Incision and drainage	
8011	Bartholin	1.0
8012	Skene	.75
8020	Caruncle, urethral, excision or fulguration of	2.5
	Cervix	
8040	Amputation of	7.5
8041	Electrocauterization of, nonpuerperal	1.5
8042	Conization of	3.0
8043	Dilation of, and curettage of uterus, nonpuerperal, with or without electrocauterization, conization or polypectomy	4.0
8044	Polypectomy, one or more, without dilation and curettage	1.5
8050	Colpotomy for drainage of pelvic abscess	3.0
8060	Fistula, rectovaginal, vaginosigmoid, or vesicovaginal, excision or closure of	15.0
8070	Hymenectomy	2.5
8071	Hymenotomy	1.0
	Hysterectomy, with or without dilation and curettage	
8080	Complete (pan-hysterectomy), with or without adnexa	18.0
8081	Subtotal or supracervical, with or without adnexa	15.0
8082	Radical, for malignancy	25.0
8083	Vaginal, with or without pelvic floor repair	18.0
8100	Myomectomy, abdominal approach	12.5
8110	Tubal insufflation or uterography	1.5
8134	Uterus or cervix, insertion and removal of radioactive substance	5.0
8138	Uterus, suspension of, any type, with or without dilation and curettage or surgery on tubes or ovaries	12.5

*EXHIBIT II—Continued*

Code Number	Procedure	Relative Value
<b>GYNECOLOGICAL SURGERY (Continued)</b>		
8150	Vaginal septum or cyst, excision of Vulvectomy	2.5
8160	Simple, complete	12.5
8161	Radical with inguinal node dissection, one or more stages	22.5
<b>Oviduct and Ovary</b>		
8210	Oophorectomy or oophoroplasty, unilateral or bilateral	12.5
8220	Salpingectomy or salpingoplasty, unilateral or bilateral	12.5
8224	Salpingo-oophorectomy, unilateral or bilateral	12.5
8230	Transection or ligation of Fallopian tubes, unilateral or bilateral	12.5
<b>Repair Procedures (nonpuerperal)</b>		
8310	Atresia of vagina, plastic repair of	10.0
8320	Colporrhaphy or perineorrhaphy, without other procedure	2.5
8325	Trachelorrhaphy, without other procedure	5.0
8330	Cystocele and/or urethrocele, repair of, without other procedure	10.0
8335	Enterocoele, repair of, abdominal or vaginal, without other procedure	12.5
8350	Rectocele, repair of, without other procedure	7.5
8380	Combination of cystocele, enterocoele or rectocele, or combination of urethrocele, enterocoele or rectocele, with or without other repair procedures	14.0
<b>OBSTETRICAL</b>		
8610	Abdominal operation for extra-uterine or ectopic pregnancy Caesarean section (abdominal or vaginal)	12.5
8630	Delivery of child or children	15.0
8634	Delivery of child or children and hysterectomy	18.0
8650	Delivery of child or children Miscarriage (including therapeutic or spontaneous abortion), treatment of	7.5
8670	With dilation and curettage	4.0
8672	Without dilation and curettage	2.5
8680	Dilation and curettage of uterus for Hydatidiform mole	5.0
8682	Postpartum bleeding	4.0
<b>NEUROSURGERY</b>		
<b>CRANIAL VAULT, INCLUDING BRAIN</b>		
9010	Cisternal puncture Craniotomy (other than trephination only)	2.0
9011	Cranioplasty with bone graft, metal or plastic insert	25.0
9015	Decompression, unilateral or bilateral	17.5
9017	Drainage of subdural, epidural or brain abscess or hematoma	30.0
9021	Excision of brain cyst, neoplasm or abscess Trephination or Burr holes	30.0
Exploratory		
9050	Unilateral	10.0
9051	Bilateral	15.0
Drainage of subdural, epidural or brain abscess or hematoma		
9053	Initial trephination	15.0
9055	Subsequent needling	3.0
Frontal lobotomy or leukotomy		
9057	Transorbital Others	7.5
9058	Unilateral	12.5
9059	Bilateral	17.5
9060	Pneumoventriculography	10.0
9061	Pneumoencephalography	5.0



EXHIBIT II—Continued

Code Number	Procedure	Relative Value
<b>PERIPHERAL NERVES</b>		
	Injection of nerve with destructive agent	
9220	Initial	2.5
9221	Subsequent	1.5
	Neuroma, excision of, without anastomosis	
9240	Superficial	3.0
9241	Deep	10.0
9260	Phrenicectomy or phrenicclasis	6.0
	Suture or neurolysis	
9270	One nerve	S.C.
9271	More than one nerve	S.C.
	Transplant	
9280	One nerve	S.C.
9281	More than one nerve	S.C.
<b>SPINAL CORD AND SPINAL MENINGES</b>		
9420	Chordotomy	30.0
9430	Laminectomy or hemilaminectomy	22.5
9434	Lumbar puncture, diagnostic or therapeutic	1.5
9440	Meningocele, spinal, repair of	20.0
9450	Myelography or discography	3.5
9470	Section (rhizotomy) of anterior or posterior nerve roots	22.5
9480	Spinal cord tumor, removal of	30.0
<b>SYMPATHETIC NERVOUS SYSTEM</b>		
9640	Presacral plexus, resection of	12.5
	Splanchnicectomy	
9660	Unilateral	17.5
9661	Bilateral	27.5
	Sympathectomy	
	Cervical	
9680	Unilateral	17.5
9681	Bilateral	25.0
	Dorsal	
9684	Unilateral	17.5
9685	Bilateral	27.5
9688	Dorsolumbar or thoracolumbar, bilateral	30.0
	Lumbar	
9690	Unilateral	15.0
9691	Bilateral	22.5
9694	Periarterial	15.0
<b>ORAL SURGERY</b>		
The values shown apply to operations which are not performed on the same day as any extraction of teeth for the same condition.		
3410	Alveolar abscesses, excluding pyorrhea, incision and drainage	.5
	Alveolectomy	
3414	One socket area	.5
3415	Each additional socket area on same day	.2
3418	Apicoectomy	2.0
	Cysts of jaw (mandible or maxilla), excision of	
3425	Involving area of one or two teeth	2.0
3426	Involving area of three or four teeth	4.0
3427	Involving area of 5 or more teeth	10.0
3428	Epulis, excision	1.5
	Impacted tooth, one, excision of	
	Partially unerupted from jaw bone	
3450	Maxilla	1.5
3452	Mandible	2.5
3456	Completely unerupted from jaw bone	5.0
3490	Torus palatinus, excision	5.0

## DISCUSSION OF PRECEDING PAPER

D. W. PETTENGILL:

Morton D. Miller's paper on the "1957 Study of Group Surgical Expense Insurance Claims" is another one of those scholarly pieces of actuarial research that we have come to expect from this illustrious member of our Society. While I thus commend the entire paper to your study, I should like to call particular attention to the 1957 Schedule of Relative Values contained in the Appendix.

The insurance business has needed such an up-to-date surgical schedule ever since 1954 when it first became evident that the relative values of the 1947 Schedule no longer reflected current surgical practice. In 1956, the California Medical Society published a relative value fee schedule and, for a moment, it looked as though it were the answer to our needs. Unfortunately, the California schedule is written in technical medical terms that the typical doctor understands but seldom uses when completing claim forms for insurance companies. It is, therefore, a difficult schedule for the lay claim adjuster to handle.

Some way of solving this difficulty might have been found if the other state medical societies had adopted the California schedule as their own. So far, however, most of the state medical societies that have adopted relative value schedules have adopted ones that differ from California's and from each other's. Consequently, companies doing business in more than one state still need a single relative value schedule that will be reasonably appropriate in all states. Mr. Miller's 1957 Schedule fills this need, and in my opinion, fills it very well.

I do feel, however, that this 1957 Schedule should have an abbreviated form that can be used for policies, certificates and employee announcement literature. Accordingly, and with Mr. Miller's consent, I have had such an abbreviated schedule prepared, as reproduced on page 489. The procedures included in this short form accounted for 80% of all the claims included in the 1957 Study. While no two of us would make the same abbreviation, I hope, in the interest of uniformity, that this one will serve the purpose for most of you.

ARTHUR G. WEAVER:

This paper is a valuable addition to the growing list of contributions to the Society by Mr. Miller. Our congratulations and thanks to him!

The 1957 Study of Group Surgical Expense Insurance Claims will be used for a variety of purposes, the most important single application being

## SCHEDULE OF PROCEDURES

Two or more procedures performed during the course of a single operation through the same incision, or in the same natural body orifice, or in the same operative field are to be considered as one procedure with a relative value equal to the largest of the values for the respective procedures, except where the Schedule specifies to the contrary.

	Relative Value	Relative Value
<b>GENERAL</b>		
Accidental lacerations of skin structures, suture of		
Face, neck, genitalia and hands, all lacerations combined		
1 inch or less . . . . .	1.5	
More than 1 inch up to 2 inches . . . . .	2.0	
Other body areas, all lacerations combined		
1 inch or less . . . . .	.75	
More than 1 inch up to 2 inches . . . . .	1.0	
Bronchoscopy—Diagnostic, with or without biopsy . . . . .	4.5	
—Operative removal of tumors or foreign bodies . . . . .	7.5	
<b>Cystoscopy</b>		
Diagnostic, with or without biopsy		
Without urethral catheterization . . . . .	2.5	
With urethral catheterization . . . . .	3.5	
Operative—Transurethral resection of bladder neck or bladder tumors or crushing of bladder stones . . . . .	11.0	
—Fulguration of bladder tumors or removal of bladder stones without crushing . . . . .	5.0	
Cysts, excision of—Pilonidal cyst . . . . .	9.0	
—Sebaceous cyst . . . . .	1.5	
<b>Mammary glands</b>		
Excision of benign tumors or cysts—Unilateral . . . . .	5.0	
—Bilateral . . . . .	7.5	
Mastectomy—Total . . . . .	10.0	
—Radical, with axillary node dissection . . . . .	20.0	
Skin abscess, superficial, incision and drainage—One . . . . .	.75	
—Each additional . . . . .	.40	
—Maximum . . . . .	2.5	
<b>Thyroid gland</b>		
Thyroidectomy, total or subtotal . . . . .	17.5	
Thyroid lobectomy, hemithyroidectomy . . . . .	15.0	
Excision of thyroid adenoma or cyst . . . . .	12.5	
<b>Tumors, benign, superficial</b>		
Excision from face, neck, genitalia, hands, or feet—One . . . . .	2.0	
—Each additional . . . . .	1.0	
Excision from other body areas—One . . . . .	1.0	
—Each additional . . . . .	.50	
Electrocauterization or fulguration, with or without curettage, per day of such treatment		
One tumor, except plantar wart . . . . .	.50	
More than one tumor, or each plantar wart . . . . .	1.0	
<b>MUSCULOSKELETAL</b>		
<b>Amputations</b>		
Finger, thumb, or toe (one or more phalanges)—One . . . . .	2.5	
—Each additional . . . . .	1.5	
Thigh, through femur . . . . .	15.0	
	Closed Reduction	Open Reduction
<b>Dislocations</b>		
Elbow . . . . .	4.0	10.0
Shoulder . . . . .	3.5	12.5
<b>Fractures, simple or compound</b>		
Ankle—Malleolus of tibia or fibula . . . . .	5.0	10.0
—Bimalleolar (Potts) . . . . .	6.0	15.0
Clavicle . . . . .	3.0	10.0
Elbow, distal end of humerus or proximal end of radius or ulna, one or more bones . . . . .	6.0	15.0
Femur (except knee) . . . . .	12.0	24.0
Fibula (except ankle) . . . . .	4.0	8.0
Finger, thumb or toe—One . . . . .	2.0	4.0
—Each additional . . . . .	1.0	2.0
Humerus (except elbow) . . . . .	7.5	15.0
Knee, distal end of femur or proximal end of tibia, one or both bones . . . . .	7.5	15.0
Radius, including Colles' (except elbow) . . . . .	5.0	10.0
Radius and ulna (except elbow) . . . . .	7.0	14.0
Ribs, one or more . . . . .	2.0	5.0
Tibia (except ankle and knee) . . . . .	7.5	15.0
Tibia and fibula (except ankle) . . . . .	10.0	20.0
Ulna (except elbow) . . . . .	4.0	10.0
Closed reduction is correction of displacement by manipulation without incision including application of casts or traction and including debridement at fracture site. For closed reduction of a fracture with skeletal pinning and external fixation, the relative value is 1½ times the relative value for closed reduction.		
Open reduction is correction of displacement by manipulation and incision with or without skeletal traction or metallic fixation.		
Intervertebral disc, excision of—Without spinal fusion . . . . .	22.5	
—With spinal fusion . . . . .	30.0	
Tendons—Excision of ganglion . . . . .	4.0	
Suture of tendon laceration—One . . . . .	5.0	
—Each additional . . . . .	2.5	
<b>YE, EAR, NOSE AND THROAT</b>		
Chalazion, excision or curettage—Single . . . . .	1.5	
—Multiple . . . . .	2.5	
Extraction of lens for cataract . . . . .	20.0	
<b>HEART AND BLOOD VESSELS</b>		
Strabismus, operation for—One eye . . . . .	13.5	
—Both eyes . . . . .	17.5	
Each additional operation, one or both eyes . . . . .	7.5	
Penetration operation for atherosclerosis . . . . .	30.0	
Myringotomy or tympanotomy . . . . .	1.5	
Nasal polyps, removal of one or more, one or more stages		
Unilateral . . . . .	1.5	
Bilateral . . . . .	2.5	
Nasal septum, submucous resection of . . . . .	10.0	
Tonsillectomy with or without adenoidectomy . . . . .	4.0	
<b>HEART AND BLOOD VESSELS</b>		
Commissurotomy or valvotomy . . . . .	30.0	
Saphenous vein, long, ligation with or without retrograde injection or distal interruptions		
Without stripping—Unilateral . . . . .	7.5	
—Bilateral . . . . .	11.0	
With stripping on same or successive days—Unilateral . . . . .	10.0	
—Bilateral . . . . .	15.0	
<b>CHEST</b>		
Lobectomy—Total, subtotal or segmental . . . . .	30.0	
—Wedge resection . . . . .	22.5	
Thoracotomy, for drainage of empyema		
Without rib resection . . . . .	5.0	
With rib resection . . . . .	10.0	
<b>ABDOMEN</b>		
Appendectomy, with or without incision and drainage of appendiceal abscess . . . . .	11.0	
Cholecystectomy, with or without exploration of common duct . . . . .	17.5	
Colon resection—Partial, with or without colostomy . . . . .	25.0	
—Total . . . . .	30.0	
Gastrectomy, with or without vagotomy—Partial . . . . .	25.0	
—Total . . . . .	30.0	
Herniotomy, inguinal or femoral—Single . . . . .	11.0	
—Bilateral . . . . .	15.0	
<b>PROCTOLOGY AND UROLOGY</b>		
Fistulectomy or fistulotomy—Single . . . . .	6.5	
—Multiple . . . . .	9.0	
Fistulectomy or fistulotomy (single or multiple), with incision and drainage of ischioanal abscess . . . . .	9.0	
Hemorrhoidectomy, by excision, internal only or both internal and external—Without fistulectomy . . . . .	8.0	
—With fistulectomy . . . . .	10.0	
Hydrocele or varicocele, excision of—Unilateral . . . . .	7.5	
—Bilateral . . . . .	10.0	
Ischioanal abscess, incision and drainage . . . . .	3.5	
Nephrectomy or heminephrectomy . . . . .	22.5	
Proctectomy, complete, combined abdominal—perineal procedure, one or more stages . . . . .	30.0	
Prostatectomy—Suprapubic, one or more stages including control of postoperative bleeding . . . . .	25.0	
—Transurethral, one or more stages . . . . .	20.0	
<b>GYNECOLOGY</b>		
Conization of cervix . . . . .	3.0	
Cystocele, repair of . . . . .	10.0	
Rectocele, repair of . . . . .	7.5	
Cystocele and rectocele, repair of . . . . .	14.0	
Dilation of cervix and curettage of uterus, non-puerperal, with or without electrocauterization, conization or polypectomy . . . . .	4.0	
Electrocauterization of cervix, non-puerperal . . . . .	1.5	
Hysterectomy, with or without dilation and curettage		
Complete (pan-hysterectomy), with or without adnexa . . . . .	18.0	
Subtotal or supracervical, with or without adnexa . . . . .	15.0	
Radical, for malignancy . . . . .	25.0	
Salpingectomy or oophorectomy, or both, unilateral or bilateral . . . . .	12.5	
Uterus, suspension of, any type, with or without dilation and curettage or surgery on tubes or ovaries . . . . .	12.5	
<b>NEUROSURGERY</b>		
Craniotomy (other than trephination only)		
Decompression, unilateral or bilateral . . . . .	17.5	
Excision of brain cyst, neoplasm, or abscess . . . . .	30.0	
Lumbar sympathectomy—Unilateral . . . . .	15.0	
—Bilateral . . . . .	22.5	
Trephination		
Drainage of subdural, epidural or brain abscess or hematoma—Initial trephination . . . . .	15.0	
—Subsequent needling . . . . .	3.0	
Pneumoencephalography . . . . .	10.0	
<b>OBSTETRICS</b>		
Abdominal operation for extra-uterine or ectopic pregnancy . . . . .	12.5	
Caesarian section—Delivery of child or children . . . . .	15.0	
—Delivery of child or children and hysterectomy . . . . .	18.0	
—Delivery of child or children . . . . .	7.5	
Miscarriage—With dilation and curettage . . . . .	4.0	
—Without dilation and curettage . . . . .	2.5	

The Insurance Company will determine a value consistent with the values listed, for a surgical procedure not listed in the foregoing Schedule such determination, in each case, to take into account the nature and complexity of the procedure involved and the exclusions and other restrictions applicable.

the development of a new group surgical expense insurance schedule of maximum reimbursements. Mr. Miller's paper is particularly timely for such a project, since his 1947 Schedule of Relative Values and Frequencies is outmoded as a result of technological advances in the field of surgery. Thus the frequency of appendectomy and tonsillectomy operations has decreased, while surgical treatment of benign tumors and cysts, cervical operations for adult females, thoracic surgery, neurosurgery and plastic surgery have increased both in frequency and in importance.

Health insurance patterns also have changed during the past 10 years. Group major medical expense insurance is the current style pattern while the future potential of group surgical expense insurance would appear to be limited. As a result, some may ask why companies should spend time and money in developing and marketing a new surgical schedule. A number of reasons come to mind:

1. A substantial amount of group surgical expense insurance is still being sold. The Life Insurance Association of America reports that, in 1957, 18,340 new group surgical expense insurance contracts were issued, covering almost 1,600,000 employees and 2,500,000 dependents. Nearly fifty million people now insured on a group basis for this coverage will find their protection increasingly inadequate over the next few years unless a modern schedule is substituted. Because of shifts in frequencies and average charges for different procedures, a straight percentage scaling up of the schedule is not the answer.
2. There is some indication that future group major medical expense insurance contracts may contain surgical schedules as inside limits, in order to control the mounting cost of surgical claims thereunder.
3. A great many surgical schedules have been prepared in recent years, mostly with a regional or competitive bias, by state medical societies, Blue Shield, insurance companies, consultants and brokers. The resulting confusion is not in the best interests of the public, the medical profession or the insurance industry. Mr. Miller's study provides an opportunity to substitute a single up-to-date schedule based on a nationwide sampling of surgical charges. This is because the author has demonstrated that while the over-all level of charges varies from area to area, there is little variation by geographical area group in the relationship between doctors' charges for different surgical procedures. One surgical schedule, suitably adjusted for level of charge, should be acceptable in all areas.

The Group Morbidity Committee of the Society, under whose aegis the surgical statistics have been compiled, has used the Surgical Procedures

Classification and Nomenclature published in 1956 by the Health Insurance Council. It is well to know that this classification and nomenclature system has been designed specifically for use in surgical schedules, and features both the medical name and lay term for each procedure. This dual terminology is important to a more complete understanding of surgical expense insurance by both the people insured and the surgeons to whom the benefits ultimately are payable. Again the nomenclature should facilitate fast and simple claims administration by lay personnel.

Will the 1957 Surgical Schedule be well received by the medical profession? We believe it will. However, we should point out that medical societies in several states, notably California, Georgia, Maine, Rhode Island, Tennessee and Wisconsin, have developed their own schedules or relative schedules. In other states, the medical profession has participated in the development of local Blue Shield schedules and is therefore familiar with and has a sense of loyalty to the local classification and nomenclature used. On the other hand, doctors and surgeons who have studied the problem recognize the need for a nationally accepted schedule based on statistics rather than on the result of continuous negotiation between the medical specialties. They also admit that surgical schedules couched in medical terms prove confusing to their patients, and while many would prefer to have a national schedule of relative fees sponsored by the American Medical Association, they see little indication that such a schedule will become available soon.

In our opinion the 1957 Surgical Schedule will find widespread acceptance for group surgical expense insurance purposes and gradually will replace the present \$200 Schedule as the industry standard. Our company has decided to follow this approach and will offer the 1957 Surgical Schedule to the field in the near future.

Turning now to another aspect of Mr. Miller's paper, I have been intrigued with his Table M showing the geographical variation in surgeons' charges. Generally surgical charges by state vary less than hospital board and room charges by state. Thus a tabulation by state of hospital board and room charges under John Hancock Group Hospital Expense claims for the first six months of 1958 shows a standard deviation of 18.6% compared with 13.6% for Table M.

Significantly the standard deviation for our area classifications applicable to group major medical expense plans and with the same weighting by state as the hospital and surgical charges is only 7.5%. Our calculations show that, depending on what geographical variation is assumed in medical charges other than for surgery and in-hospital charges for special services, area classification factors should show standard deviations ranging between 10% and 15%, or between one and one-half and two times the

variation actually recognized. These considerations suggest that it may be necessary for companies which have not already done so to introduce wider geographical variations into major medical rates than has been the case in the past.

We have also attempted to measure the degree of correlation between charges, state by state, for hospital board and room, for surgery, for all medical care and for major medical expense insurance. The results are rather interesting:

Charges Correlated	Correlation Coefficient (r)
Hospital Room and Board, Surgery.....	.72
Hospital Room and Board, Major Medical rates...	.92
Surgery, Major Medical rates.....	.75
All Medical Care, Major Medical rates.....	.90-.93

The correlation with major medical rates is surprisingly good in view of the difference between actual and statistically desirable area classification factors. The significance is that hospital board and room charges which are readily available can apparently be used as a criterion for periodic revisions of major medical area classification factors. On the other hand, surgical charges by themselves would not be particularly suitable for this purpose.

#### C. GILBERT NOREN:

The 1957 Study is a valuable addition to the portfolio of current Group Accident and Health statistics, for which Mr. Miller and his committee are to be commended. There is one area, however, which causes us some concern.

The multiple procedure rule at the beginning of the Schedule of Relative Values is far tighter than the one now commonly in use. Currently payments are restricted for multiple surgery "performed through the same abdominal incision." The proposed rule which involves consideration of operative field and surgical approach will require greater technical knowledge on the part of claims personnel. A substantial amount of training and use of higher paid clerks may be necessary to successfully administer it.

The savings in claim dollars intended by the proposed new rule have, to a large extent, already been achieved by including in the schedule itself many of the common combinations of multiple operations. By adding to the schedule a few more high-frequency multiple procedures, practically all of the savings could be so achieved. With such additions, we believe it would be better to stick with the present "same abdominal incision" multiple procedures rule.

HERBERT J. STARK:

Mr. M. D. Miller ably presents the results of the 1957 Study. In particular, the Society owes him a debt for the care and patience which went into the preparation of the 1957 Schedule of Relative Values of Surgical Procedures.

One minor comment, which I think should nevertheless be placed upon the record, is that whereas Mr. Miller states that group surgical expense insurance for employees and their dependents underwritten by insurance companies was first introduced about 1936, the Metropolitan Life Insurance Company made group surgical expense insurance available to its own employees as early as 1928—before the initiation of the first Blue Shield plan. Coverage was extended to dependents of Metropolitan employees in 1939.

It is not clear from Mr. Miller's paper whether the large sample of claims studied all relate to a more or less uniform group surgical schedule or, if different schedules are included, what benefits the average schedule would provide. Without this information, it is difficult to interpret Mr. Miller's Table I, in particular, which shows the ratio of total reimbursement to total surgical charges. I hope that Mr. Miller will enlighten us further in this connection.

One interesting aspect of the study which is not stressed in Mr. Miller's paper arises from the fact that the sample of surgical claims used is sufficiently large to be taken as giving a general picture of the utilization of surgical procedures in the United States and Canada during the period covered by the study.

Table Q of the paper shows in great detail what operations were performed and what the average level of charges for each of the procedures was at that time. The detail shown tends, however, to be overwhelming.

With this in mind, I thought it would be worth while to prepare, from Table Q, a short table in which the sample of operations would be classified by degree of "severity," taking as a measure of severity the average surgical charge for each procedure. To avoid confusion, only the single procedure claims in Table Q were used and the obstetrical claims were omitted. Accordingly, the table covers some 111,000 claims for which the doctors' charges aggregated nearly \$7½ million.

It should be noted that the table is quite different from one which would be prepared by classifying all of the claims according to the doctor's charge for that particular case. Such a table could, of course, be prepared, but the dispersion of the doctors' charges for each particular procedure, as revealed by Mr. Miller's Table L, would tend to mask some of the interesting features shown by the severity table.

The severity table enables the total volume of surgery performed to be broken down into severe surgery and minor surgery and shows the proportion of the charges and of the number of claims falling into each category. If preferred, the claims could be classified in more than two categories—say, severe, moderately severe, and minor. Since the dividing points, for such classifications as these, are determined by the particular interests and the subjective approach of the individual making the classification, I have not attempted to present such a classification but have allowed the table to speak for itself.

SURGICAL OPERATIONS BY DEGREE OF SEVERITY\*

Procedures with Average Surgical Charges as Follows	Number of Procedures	Percentage of Total Number of Procedures	Number of Claims	Percentage of Total Claims	Amount of Doctors' Charges	Percentage of Total Charges
\$ 20 and under . . . . .	25	4.8%	24,556	22.1%	\$ 393,031	5.3%
21-\$25 . . . . .	20	3.8	14,342	12.9	328,037	4.4
26-30 . . . . .	28	5.4	6,915	6.2	200,901	2.7
31-40 . . . . .	38	7.3	5,880	5.3	210,764	2.8
41-50 . . . . .	39	7.5	3,753	3.4	165,332	2.2
51-75 . . . . .	63	12.1	29,206	26.2	1,588,872	22.7
76-100 . . . . .	61	11.7	2,849	2.6	248,957	3.3
101-150 . . . . .	78	14.8	13,139	11.8	1,775,638	23.8
151-200 . . . . .	65	12.5	3,114	2.8	552,448	7.4
201-300 . . . . .	70	13.4	6,294	5.7	1,506,325	20.2
301 and over . . . . .	35	6.7	1,114	1.0	390,535	5.2
Totals . . . . .	522	100.0%	111,162	100.0%	\$7,460,840	100.0%

\* Severity measured by average charge shown in Table Q of 1957 Study of Group Surgical Expense Insurance Claims; Multiple Procedures and Obstetrical Surgery excluded.

Nevertheless, it is a striking fact that whereas half the claims were based on procedures for which the average charge was less than \$50, these include only 17% of the total charges. Presumably these procedures represented a still lower percentage of the total income of those doctors specializing in surgery, since many of these less costly procedures are performed by general practitioners or, as indicated by Mr. Miller's paper, in a hospital's out-patient department.

The table also reveals a remarkable degree of "heaping up" of the surgeon's income for procedures with certain levels of average charge due to the prevalence of particular operations which fall in those average charge levels. In particular, average charges in the range from \$51 to \$75 account for 26.2% of the total claims and 22.7% of the total surgical charges. This is partly accounted for by the frequency of tonsillectomies, which alone continue to account for 10% of the total single procedure surgical charges.



It may be noted, however, that there would still be a "heaping up" at this point if tonsillectomies were excluded.

Similarly, the procedures for which the average charges were in the range from \$101 to \$150 account for 11.8% of the total claims and 23.8% of the total surgical charges. In this category fall such frequent operations as appendectomies, the principal class of herniotomies, and the principal class of hemorrhoidectomies. Appendectomies, like tonsillectomies, account for about 10% of the total of surgical charges here considered.

Finally, there is another "heaping up" in the range of average charges from \$201 to \$300. These include 5.7% of the total claims and 20.2% of the total charges. Included are such comparatively frequent operations as cholecystectomies and hysterectomies.

The three ranges noted above include two-thirds of all the surgical charges in the table; the eight remaining ranges thus cover the remaining one-third of the charges.

Of interest is the fact that the most serious group of operations—those for which the average surgical charges exceeded \$300—account in this study for only 5.2% of the surgeons' income and 1% of the number of claims.

There have been included in the table the number of procedures in each range of average charges and the percentage each forms of the total of 522 procedures which were performed one or more times in the study sample. The number of procedures tends to rise as severity increases; this reflects not only the greater complexity of major surgery, but the tendency toward more detailed coding classifications for the more serious operations.

This table may have value in giving some indication of the extent to which the amount of surgical reimbursement would be reduced by a deductible, or by the combined effect of a deductible and coinsurance, whether treated as a separate coverage or included as one part of a major medical plan. For this purpose, it should be considered in conjunction with Mr. Miller's Tables F, G and K which show the extent to which certain surgical procedures are performed otherwise than as a hospital bed-patient and the relationship between charges for such surgery and for surgery performed on hospital bed-patients. It may be assumed that if the operation is performed either in the out-patient department or out-of-hospital, it is likely that any nonsurgical medical expenses associated with the condition are small. It is also likely that the amount of medical expense for that individual which is not associated with this particular operation, but which falls within the claim period of the plan, does not exceed that for the average of the persons covered under the plan.

JAMES B. ROSS:

In the Appendix to the 1957 Study of Group Surgical Expense Insurance Claims Mr. Miller states: "If surgical expense insurance is to be fully effective, it should provide reimbursement for the different kinds of operations reasonably proportionate to the fees which surgeons may be expected to charge." This statement makes such common sense that it is easy to overlook the fact that such a "proportionate" schedule is somewhat arbitrary, and further that "the fees which surgeons may be expected to charge," while obviously incapable of precise prediction, can be approximated in several widely different ways.

Proportionate reimbursement across the entire range of surgical procedures has both an equitable and a mathematical appeal. This principle has been at the root of almost all formal surgical schedules devised in the past; their deviations from each other reflected the differences in opinion of the schedule drafters as to the probable relative level of surgeons' fees by procedure. In the development of comprehensive medical insurance we have seen a surgical benefit component which, while not employing a rigid schedule of reimbursements by procedure, uses a "universal formula" consisting of a deductible and a coinsurance percentage. This form of surgical coverage does not produce reimbursement which is "reasonably proportionate" to probable fees, especially if the surgical deductible is of any size. Particularly striking, of course, is the fact that no reimbursement may be payable at all for the simpler procedures excluded in whole or part by the deductible. Practically speaking, it is perfectly possible to write and administer schedules which are poorly designed with respect to the probable charges by procedure or even which bear no relation at all to such probable charges. We are all familiar with instances in which changing medical practice has rendered obsolete schedules of benefits considered most appropriate at the time they were written.

Given that the objective of proportionately covering charges for all kinds of operations is desirable, there remains a genuine question as to the best method of constructing a schedule of relative values which will achieve this goal. Mr. Miller has elected to employ claim data covering group surgical claims incurred in calendar year 1955. This material was analyzed by procedure and the average charge by the physician calculated for each. From the resulting array of average charges, supplemented to a generous extent by reference to other schedules, a complete set of relative values for the range of operations was constructed.

This approach is a retrospective one, and leans rather heavily on the thesis that medical practice, while acknowledgedly changing, is not chang-

ing so rapidly as to vitiate the usefulness of the material during the period from one intercompany investigation to the next. Further implicit in the choice of these data as a source for constructing a relative value scale is the hope that the underlying material was not markedly biased by the existence of the surgical schedules in force with respect to the claims from which the study was made. It is not likely, for example, that a particularly poor or ill-fitting schedule will materially alter the relative frequencies themselves; however, such a schedule may have a definitely deleterious effect upon the average charge for the various procedures. A certain amount of distortion is thus automatically introduced into the study's basic materials because of the insured schedules which give rise to the data.

It is possible to construct scales of relative values in ways other than by the analysis of large volumes of material accumulated under the actual operation of insured surgical schedules. The perfectly ingenuous approach of polling a large block of doctors for the express purpose of obtaining their views as to what reasonable relative values might actually be is an approach which has been carried to fruition by the California Medical Association. Here the basic data were a large number of participating physicians' opinions as to the relative values of various operations. Bias due to the constraints of insurance schedules was not present, although bias could be present where all physicians are not fully acquainted with the intricacies of some of the specialty operations carried on the surgical schedule, or where it appears to be to the long-run pecuniary advantage of the specialist to magnify values in his area. This approach has the decided advantage that if unanimity of professional medical opinion can be secured there exists the pre-sale assurance that the schedule will perform equitably with respect to charges as far as the doctors are concerned. If that is the case it is likely that employer and employee satisfaction will follow in the wake of surgical schedules placed at an adequate reimbursement level.

Aside from the matter of relative value schedules, actuaries are indebted to Mr. Miller for his role in assembling an up-to-date tool which permits placing a consistent price upon any surgical schedule. The tabulations of relative frequencies of surgical procedures show marked differences from those included in the last previous Intercompany Surgical Study (1947), and no doubt will produce substantial shifts in the pure premium rates for the standard schedules now commonly offered.

WILLIAM CUNNINGHAM:

Companies which do not participate in the intercompany morbidity studies are indebted to those companies which do contribute. The tables

contained in Mr. Miller's paper will be of invaluable aid to actuaries of all companies. It is unfortunate that this type of study and others of a similar nature are not made more frequently. I feel that Mr. Miller should not have continued his paper by the inclusion of the Appendix on relative values and it is clear that the Appendix was not unanimously supported by the members of the Group Morbidity Committee. My purpose in discussing Mr. Miller's paper is to point out certain pitfalls in usage that any company may make of appendix Exhibit II with regard to the following areas:

Relationship with medical profession

The development of a relative value schedule by actuaries

Coding nomenclature

Geographical costs

Age and income variations

Fees for assistants and anesthesiologists

Charges made by the medical profession for other than surgery.

#### *Relationship with the Medical Profession*

The medical profession is very jealous, and rightly so, of any interference by a third party in the patient-doctor relationship. Responsible bodies in the medical profession know that they have "dirty linen" which needs to be cleaned and accept this to be their responsibility alone. The insurance industry has done a poor job in cooperating and developing a mutual understanding of joint problems with the medical profession in the past. Although some efforts have been and are being made in this direction today, we are not doing all that should be done and I feel that Mr. Miller's relative values will be construed as another example of interference rather than cooperation. The following quotation is from the Foreword of the second edition of the *Relative Value Study* adopted by the California Medical Association:

The medical profession, having personal knowledge of the relative values of the procedures utilized in the practice of medicine and surgery, and in fact having exclusive knowledge of these procedures, is in the unique position of being the only group able to determine the relation of one procedure to another. This imposes upon medicine the duty to ascertain such relativity and inform the public as a whole.

Pacific Mutual is in complete agreement with the above quotation and it was mainly for this reason that we adopted the California Relative Value Schedule not only as the schedule in our basic medical plans but also in our comprehensive medical policy. We have contacted various medical associations at the county level and asked them to set the dollar value per unit that was reasonable for their area. We were hopeful and, I

might add, still retain hope that this contact work could be approached on an industry basis. Up to this moment we have had very little support. We feel that the beneficial results would have been substantial had this development work been conducted by the industry at large based upon the successful results we have achieved in California, Arizona and elsewhere.

#### *The Development of a Relative Value Schedule by Actuaries*

When the 1947 Surgical Study was completed there was no interest on the part of the medical profession to establish a fee schedule and it was only logical that the insurance companies develop schedules based upon information then available. Thus the old \$200 and \$300 Surgical Schedules served a very worth-while purpose. The following quotations are again from the California Medical Association Relative Value Schedule:

The profession has pointed out irregularities and inadequacies in every fee schedule yet produced. In the absence of standards, confusion, disappointment with health insurance and economic injustice for physician, for the insured, the patient or for the insurance company have been the rule.

Now that standards of nomenclature and relative values have been officially adopted by the profession in California, we hope for and urge their early use by everyone concerned with setting up fee schedules and health insurance indemnities, by everyone who buys, sells or administers health insurance or who controls other private and public plans and mechanisms through which money is paid for the services of doctors of medicine.

The surgical section of the California Relative Value Schedule contains a maximum range, except for certain procedures involving time and procedure reports, of 100 units, whereas Mr. Miller's Schedule has a maximum range of 30 units. If the two schedules were similar, it is apparent that the California unit value would be  $3\frac{1}{3}$  times that produced by Mr. Miller's unit value. Although the relationship between the majority of procedures is approximately 3 to 1, many of them vary from 2 to 1 up to 5 to 1. It is obvious that the medical profession will be critical and not accept a relative value schedule such as suggested by Mr. Miller.

It is my feeling that much more could be accomplished if the insurance industry would encourage the medical profession at either a local or state or a national level, preferably the latter, to devise relative value schedules and, if necessary, offer to assist with the statistical work involved.

#### *Coding Nomenclature*

It would be very beneficial if all fee schedules would adopt a standard nomenclature and code system and I know that at the present time such

progressive steps have been suggested. It should be the responsibility of the medical profession to suggest such a common system. Both California and Michigan Medical Associations are apparently using the same coding system and yet we in the insurance industry have not as yet seen fit to accept this system.

#### *Geographical Costs*

There is a wide variation in charges by geographical area, although I am not sure that there is or should be any variation in the relative value between procedures. The basis of charges for determining the Actuaries' Relative Value Schedule was from claims paid on the old \$200 and \$300 Surgical Schedules. It must be recognized that these old schedules did not consider geographic differences and I have no doubt that the fees charged by the medical profession were not based on what they might normally charge but rather on the amount the patient was allowed by his medical insurance. I believe, therefore, that the use of these charges results in statistics of questionable value. From our experience, we know that some doctors vary the description of the procedure slightly in order to qualify the patient for a higher amount of reimbursement from his insurance coverage. For these reasons, if for no other reasons, I question the actuarial soundness of the Relative Value Schedule proposed by Mr. Miller.

#### *Age and Income Variations*

It has been the standard practice by the medical profession to vary their fee by the level of the income of the patient, and from other statistics we know that income and health insurance both play an important part in the level of medical services sought by the patient. Generally, income increases by age; thus we may expect that an older patient will be charged more than a younger patient for the same surgical procedure. Other procedures are more common, either at the older or younger ages, and again the charge made by the attending surgeon will vary for the same reason. It appears questionable to use a group of dissimilar claims for statistical study and interpret the results that come forth as being homogeneous.

#### *Fees for Assistants and Anesthesiologists*

Fee charges made by assistants and anesthesiologists are an integral part of medical services and, from an insurance company's viewpoint, very important in determining the extent or amount of major medical or comprehensive medical claims. In our old base medical plans we did not recognize assistants' fees unless the charge made by the attending surgeon was less than our scheduled allowance or the charges made by anesthesiologists were included in the special services section of our hospital

benefits. Our statistics in these two areas are thus vague and insignificant and we must look to the medical profession for standards. Any relative value schedule that does not include these two integral components is of limited value to an insurance company in determining reasonable medical charges.

*Charges Made by the Medical Profession for Other Than Surgery*

The same arguments as used in the foregoing paragraph are applicable.

(AUTHOR'S REVIEW OF DISCUSSION)

MORTON D. MILLER:

Mr. Pettengill has done us all a splendid service by providing an abbreviated schedule in connection with the 1957 Schedule of Relative Values of Surgical Procedures. One of the principal aims in preparing appendix Exhibit II was to make available a schedule based on the data in the study that might be used by all who wish to do so, and thereby in the interests of the public and the medical profession secure some uniformity in the schedules offered by the companies. For those who use the 1957 Schedule, Mr. Pettengill's addendum should be very helpful in furthering this desirable goal in connection with the descriptions of the Schedule in policy contracts, individual certificates, employee announcement booklets, proposals, and other material.

Mr. Weaver demonstrates the lesser variation by geographic area in surgical charges as compared with hospital charges very neatly. The importance of there being a high correlation between hospital room and board charges and major medical expense insurance premiums, as also shown by him, is supported by the fact that about half of the major medical expense claim dollar is accounted for by hospital charges as against 20% to 25% for surgical charges.

I am sorry that the rule governing multiple procedures does not seem to be as workable as Mr. Noren would like to see it. The points that he raised were fully considered in the preparation of the 1957 Schedule and it was felt that the Schedule, together with the stated rule, did a pretty good job. Unfortunately, the 1957 Schedule, as will any schedule, represents a compromise of different points of view in a number of areas and will not satisfy everybody one hundred percent. I hope that those who use it will bear this in mind and, again in the interest of uniformity, do so with as little change as possible.

Mr. Stark asks whether all the claims in the study related to a more or less uniform group surgical schedule. A large proportion of the claims arose under the 1947 Relative Value Schedule, which has a range of from

10 to 200 units, although a significant proportion were on other surgical schedules, principally the one with a range of from 10 to 150 units commonly used by companies before the development of the 1947 Schedule. The unit values associated with these schedules varied from \$1.00 to \$2.00 per unit.

We have made an analysis of the data and find that the benefits paid on the average correspond to those which would arise under the 1947 Relative Value Schedule with a value of \$1.20 for each unit—in other words, with a range of reimbursement from \$12 to \$240. The average non-obstetrical benefit paid per claim works out to be about \$54 and the average obstetrical benefit \$63.

The table of operations by degree of severity developed by Mr. Stark is extremely interesting in bringing out both the large proportion of minor surgical procedures and the heaping of procedures at other points. Based on Mr. Stark's table, we have estimated the value of several different deductible amounts in relation to the surgeons' charges reported, without consideration of any other charges that might have been incurred in connection with the surgery. Deducting up to \$20 of the charge for each claim eliminates about 28.5% of the total surgical charges. For deductibles of \$25, \$40, and \$50, the percentages of total surgical charges eliminated are 33.9%, 47.1%, and 54.7%, respectively.

Mr. Cunningham has not brought out the tremendous activity by the industry through the Health Insurance Council in seeking the cooperative understanding of voluntary health insurance on the part of doctors and hospitals and the other health care professions, and in attempting to meet the problems that these professions have found arising from the extraordinary growth of health insurance in the last 20 years. Only recently the Health Insurance Council greatly expanded its efforts by the establishment of Health Insurance Council committees in each state to meet with doctors and hospitals locally. The California Medical Association took a big forward step in developing their Relative Value Schedule. There is no thought in this paper of discouraging medical associations in other areas from adopting the California Schedule, or indeed from setting up a schedule that would apply nationwide. No attempt was made in the paper to develop relative values for surgical assistants, anesthesiologists, or medical services other than in connection with surgery, which were referred to by Mr. Cunningham, since there were no data available in connection with charges for such services.

I agree with Mr. Ross that the principle of proportionality of reimbursement for different types of surgical procedures has no bearing under



the comprehensive major medical type plan. It is only where the surgical benefits are being provided in accordance with the usual schedule that it is important.

The use of data such as we have in this study to assist in the development of a schedule of relative values is, of course, not the only way in which a schedule can be devised. Workmen's Compensation schedules and many of the earlier insurance surgical schedules were developed on a judgmental basis by securing the opinions of physicians as to what relative values should be. Sometimes this is done by a small committee of physicians and others, or the technique can be extended, as in California, to get a broader sampling of physician opinion by specific inquiry of many

TABLE R

COST OF THE 1957 SCHEDULE OF RELATIVE VALUES, USING A MULTIPLE OF 10, AS A PERCENTAGE OF THE COST OF THE 1947 SCHEDULE WITH A MAXIMUM UNIT VAL- UE OF 200 FOR NONOBSTETRICAL PRO- CEDURES	
Male Employee.....	132.0%
Female Employee.....	129.6
<hr/>	
Total Employees.....	131.2%
<hr/>	
Wife.....	127.4%
Child.....	129.3
<hr/>	
Total Dependents.....	128.2%
<hr/>	
Grand Total.....	129.4%
<hr/>	

doctors. Even for the latter method, someone has to put the results together in a consistent pattern and fill in appropriate values for procedures not specifically covered in the sampling. In any event, the end result is the product of the substantial application of judgment and must be regarded as a practical document. Whether this other approach is a better way to develop the numbers in a relative value schedule than that which we have used, in fact whether it is really a different method, is a moot question. The advantage of having a schedule produced by the physicians and adopted by the medical association lies in the greater acceptability that the resultant schedule may achieve if their widespread support is thereby secured.

I am taking the liberty of furnishing an additional table, Table R, which compares the cost of the 1957 Schedule of Relative Values with the 1947 Schedule for nonobstetrical procedures. The unit values in the

1957 Schedule were multiplied by 10, producing a maximum of 300 units, while the 1947 Schedule with 200 units as a maximum was used in the comparison. The relative frequencies included in Table P were utilized. No comparison was made for husbands because of the paucity of data. It is suggested that the relationship shown for male employees is probably the most appropriate.

I am most appreciative of the thoughtful discussions of the paper which these gentlemen have prepared and I feel that they have added a great deal to its value.