

Is the 22 Modifier Worth It?

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abstract

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The 22 modifier is a Current Procedural Terminology code modifier that allows surgeons to receive additional reimbursement for complex procedures. The goal of this study was to evaluate the rate of, time to, and factors affecting reimbursement for 22-modifier cases filed by orthopedic surgeons.

The authors reviewed the charts and billing data of the 150 noncharity spine and total joint replacement cases filed with a 22 modifier at 1 academic institution from 2004 through 2011. Of those 150 cases, 63 (42%) were reimbursed at a rate higher than the fee schedule. For all 150 cases, the mean amount and mean percentage of additional reimbursement were $-\$86 \pm \1966 ($P=.7$) and $5.5\% \pm 37\%$ ($P=.04$), respectively. The mean reimbursement time for private and public payers was 138 ± 126 days ($P<.001$) and 118 ± 129 days ($P<.001$), respectively (standard time, 30 and 15 days, respectively). The mean present values of the amount and percentage received compared with the fee schedule were $-\$144 \pm \1966 ($P=.8$) and $4.1\% \pm 37\%$ ($P=.09$), respectively (discount rate, 5%). Anatomic variant was the only cited reason that increased the probability of additional reimbursement ($P=.016$). Citing that the case required additional time had no bearing on additional reimbursement. The authors conclude that additional reimbursement with the 22 modifier is inconsistent, has significant payment delays, and is not worth the effort for total joint replacement or spine surgery.

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As health care improves and the population ages, orthopedic surgeons are faced with more patients with complicated medical comorbidities and the need for operative revision.¹⁻³ In general, such patients require more operative time and effort for surgical procedures than the average patient who is younger with fewer comorbidities and no previous surgery, which in turn translates to higher costs per patient and may even lead to financial losses to hospitals.^{4,5} Physicians obtain reimbursement for services performed through the use of Current Procedural Terminology codes. When a provided service deviates from the Current Procedural Terminology descriptor, a modifier can be used to account for the uniqueness of the particular service and to obtain additional reimbursement. The 22 modifier signifies that a given procedure required additional physician work. What constitutes additional work (eg, unusually lengthy procedure, excessive blood loss, or pathologic or anatomic variants) and the requested amount of additional reimbursement is determined by the surgeon and must be communicated to the payer via appropriate documentation.

Recently, the opinion among surgeons has been that the necessary paperwork and the inadequate and delayed reimbursement of the 22 modifier make it cost ineffective.⁶ If this opinion is accurate, surgeons may be less likely to perform complicated procedures on patients with complex issues because of the negative financial incentives involved. To date, the current authors are aware of only 1 published paper in the literature summarizing use of the 22 modifier.⁷ This study of 317 urology cases showed that 22 modifier reimbursement was inconsistent, with only 31% of cases receiving additional reimbursement.⁷ To the authors' knowledge, no studies exist of 22 modifier use in the field of orthopedic surgery, although 2 studies briefly mentioned experience with it in small patient cohorts.^{7,8} In those studies, which focused on the effects of obesity on

total joint arthroplasty, Medicare provided additional reimbursement for 1.6% of 60 cases and 3.2% of 93 cases, respectively, that used a 22 modifier.^{7,8}

Additional study is needed to understand the usefulness of the 22 modifier in total joint replacement and spine surgery. The goal of this study was to evaluate the rate of, time to, and factors affecting additional reimbursement for 22-modifier cases filed by orthopedic surgeons. The authors tested 3 hypotheses: (1) cases billed with a 22 modifier receive more reimbursement than those billed without; (2) cases billed with a 22 modifier take longer to receive full payment than those billed without; and (3) factors related to the insurance type, surgery type, and reason for filing a 22 modifier predict the probability of additional reimbursement.

MATERIALS AND METHODS

After institutional review board approval was obtained, a retrospective chart review was performed at 1 academic medical institution with the help of the billing department. The billing department identified all noncharity primary or revision spine and total joint replacement cases from 2004 through 2011 in which an orthopedic surgeon used a 22 modifier.

Information was obtained regarding total reimbursement for the procedure and the fee schedule for the procedure when the 22 modifier was not filed. The fee schedule is the standard reimbursement amount given for a specific Current Procedural Terminology code. In some cases, insurance companies may reimburse surgeons below the fee schedule. The date of service and the completion date was also determined for each case. The completion date was defined as the last correspondence between the billing department and the insurance company regarding a particular claim. Average reimbursement times for each insurance company when 22 modifiers were not filed were obtained from the billing department for comparison.

To analyze the predictive factors for reimbursement, information was obtained on patient demographics, patient insurance, and type of procedure. The reason for filing a 22 modifier was determined from the letter submitted by the surgeon to the payer to justify the use of the modifier in each case. Reasons for 22 modifier use were divided into the following categories: extra effort, revision, comorbidity, and anatomic variant. Cases were assigned to a particular category only if the category was cited in the physician's documentation. All cases that cited extra time or effort included numerical estimates of the amount of extra time or effort required as a percentage of the entire procedure. Because some surgeons cited extra time and others cited extra effort, the 2 words were determined to carry the same meaning. The term *revision* included any surgeries in which the procedure involved an anatomic location that had been previously treated surgically. The term *comorbidity* included any medical condition, such as cancer or bleeding disorders, that may have complicated the procedure. The term *anatomic variant* included any condition that complicated the surgery in terms of more difficult patient positioning or instrumentation placement.

Of the originally identified 176 cases, 26 were excluded from the analysis because physician documentation justifying 22 modifier use could not be found, leaving 150 involving the spine or total joint replacements for the study group.

Standard descriptive statistics were calculated, including mean and SD. Hypotheses were tested using *t* tests, and $\alpha=.05$ was used. The cost of delayed payment was estimated in terms of the amount of money that could have been made by investing the fee schedule amount rather than waiting for reimbursement through the 22 modifier. This cost was estimated by calculating the present value of the payment using a conservative discount rate of 5% and a more liberal discount rate of 10%. The 5% discount rate

is based on the average bond rate on a 30-year Treasury bill, which is considered a relatively risk-free investment. Microsoft Excel (Microsoft Corporation, Redmond, Washington) was used for all calculations.

RESULTS

Of the 150 cases, 63 (42%) were reimbursed at a rate higher than the fee schedule. When additional reimbursement was received, the mean increase above the fee schedule was $\$987 \pm \1154 and the mean percentage increase above the fee schedule was $32\% \pm 39.6\%$. For all 22-modifier cases studied, regardless of whether the case received reimbursement above the fee schedule, the mean amount received compared with the fee schedule was $-\$86 \pm \1966 ($P=.7$) and the mean percentage received above the fee schedule was $5.5\% \pm 37\%$ ($P=.04$). The mean present values of the amount received and percentage received compared with the fee schedule were $-\$144 \pm \1966 ($P=.8$) and $4.1\% \pm 37\%$ ($P=.09$), respectively, at a discount rate of 5%. At a discount rate of 10%, the mean present values were $-\$197 \pm \1970 ($P=.9$) and $2.8\% \pm 37\%$ ($P=.2$), respectively.

Overall, when a 22 modifier was filed, the mean time to reimbursement was 134 ± 127 days. Medicare and Medicaid, as well as 22 commercial payers, were represented. For standard cases, on average, the billing office finds that Medicare and Medicaid reimburse cases in 15 days and private payers reimburse in 30 days. In the sample of 22-modifier cases, the mean time to payment for Medicare and Medicaid cases was 118 ± 129 days ($P<.001$), and that for private payers was 138 ± 126 days ($P<.001$).

Analyzed by procedure category, 35% of total joint replacement procedures received additional reimbursement compared with 43% of spine cases ($P=.2$). By age, 45% of pediatric cases were reimbursed compared with 40% of adult cases ($P=.27$). By insurance type, Medicare and Medicaid provided additional reimburse-

Table			
Reimbursement by Reason			
Reason ^a	Total No. (%) Cited	No. (%) Paid Above Contract	P
Anatomic variant	90 (60)	45 (50)	.016 ^b
Revision	72 (48)	27 (38)	.32
Comorbidity	71 (47)	27 (38)	.32
≥2 reasons	84 (47)	36 (43)	.8

^aSurgeons are able to cite multiple reasons to justify 22 modifier use.
^bStatistically significant at $\alpha=.05$.

ment for 23% of cases, whereas private payers provided additional reimbursement for 46% of cases ($P=.007$). Excluding extra effort as a cited reason for 22 modifier use, anatomic variant was the most commonly cited reason (60%), and it was the reason most likely to be reimbursed (50%) ($P=.016$) (Table).

Extra effort was cited in 145 (97%) cases: 82 (55%) cases cited less than 100% additional time and effort required, and 63 (43%) cases cited 100% or more extra effort. Additional reimbursement was awarded to 46% of cases that cited less than 100% extra effort and 38% of cases that cited 100% or more extra effort ($P=.32$).

DISCUSSION

Although the current findings indicate that the 22 modifier results in increased reimbursement to the physician, this increased reimbursement was not financially significant at 5.5% above the standard fee schedule. Also, the mean amount of reimbursement received compared with the fee schedule was negative and not significantly different from 0 ($P=.7$), which further argues that additional reimbursement in 22-modifier cases is not financially significant. Most cases (58%) were not provided reimbursement above the fee schedule. The amount of additional compensation is much below the 83% extra work estimated by the physicians. This study is in agreement with a recent study⁶ in urology that revealed that most

cases that filed a 22 modifier did not receive additional reimbursement and that if additional reimbursement was obtained, it was not sufficient to cover the increased time and effort required for the given case.

The current findings also support the second hypothesis that use of a 22 modifier increases the time to reimbursement. The mean times to reimbursement for public and private payers were 118 and 138 days, respectively, a significant increase compared with reimbursement times for standard cases for public and private payers of 15 and 30 days, respectively. This is a substantial length of time to await payment and may represent a hardship to the finances of an orthopedic practice. Furthermore, this increased time to reimbursement came with a cost in terms of lost returns that could have been earned had the fee schedule been invested in other enterprises on the day of payment. This cost also decreased the average percentage of additional reimbursement from 5.5% to 2.8% or 4.1% for discount rates of 5% and 10%, respectively. Moreover, neither of the present values of the mean percentage of additional reimbursement received (2.8% and 4.1%) with the 22 modifier was statistically significantly different from 0. Therefore, the authors conclude that this delay in payment essentially negates the 5.5% additional reimbursement that can be expected from filing a 22 modifier.

The results also support the third hypothesis that particular factors increase

the likelihood of additional reimbursement for a 22 modifier. Insurance type proved to be a powerful predictor of additional reimbursement: additional reimbursement was provided in 46% of cases filed to private payers compared with 23% of cases filed to public payers, a statistically significant difference ($P=.007$). Anatomic variant was the reason most likely (50%) to be awarded additional reimbursement, a statistically significant difference ($P=.016$) from cases that did not cite it as a reason for 22 modifier use. The amount of extra effort required to perform a given procedure failed to predict whether a given procedure received additional reimbursement for cases. Neither the type of procedure nor the age of the patient predicted additional reimbursement because no statistically significant differences were found between groups in these categories.

This study had limitations. First, it is a retrospective cohort review of spine and total joint replacement cases from 1 institution in 1 geographic location and may not be an accurate representation of all orthopedic surgeons, academic institutions, or payers. It is possible that results could be different for other types of medical centers or in other locations in the country. Different payers in other areas may give different reimbursements for the 22 modifier. It could also be possible that results would be different for other physicians

who may be more persuasive in their arguments to payers for reimbursement. Also, the number of complex orthopedic procedures in which a 22 modifier was not used was unable to be determined. It is likely that some surgeons did not file 22 modifiers when the modifiers were appropriate; had those cases been included, the reimbursement rates and amounts may have been different than those reported. Also, it is possible that the number of claims filed by a given surgeon affects the rate of additional reimbursement awarded. This factor would bias the results to lower reimbursement rates and should be studied in the future. Finally, the study was unable to determine the reason certain cases were awarded additional reimbursement. Future studies should involve insurance companies in an effort to understand their reasoning behind approving some claims while denying others.

CONCLUSION

The use of a 22 modifier is not worth the effort for total joint replacement or spine surgery. With the low probability and small amount of reimbursement and long wait times, surgeons should carefully consider the use of a 22 modifier. The long time delay may lead to an overall loss in reimbursement. Because complex cases require more physician time, this finding may lead to a decrease in the desire of the physician to perform complex proce-

dures,⁹ which could lead to a lack of availability of care for patients with complex surgical needs. 

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