Efficacious Treatment of Diabetic Foot Ulceration with Total Contact Casting: Coding for Procedure and Product

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Diabetic foot ulcerations (DFUs) pose a considerable financial burden for the US healthcare system and impart an enormous emotional toll on people who live with these complex wounds. It has been estimated that treatment for an uncomplicated DFU can cost as much as $8,000 per episode and nearly $17,000 for an infected ulcer. If the ulceration results in an amputation, the cost rises significantly — to as much as $45,000.1,2

More than 23 million Americans are believed to live with diabetes, which represents approximately 8% of the population.3 It has been reported that approximately 1–4% of diabetics annually develop a foot ulcer and that 10–15% will have at least 1 foot ulcer during their lifetime.4 The incidence of non-traumatic lower extremity amputations has been reported to be at least 15 times greater in people with diabetes than with any other concomitant medical illness.5-7

In data released in Incidence of Diabetic Foot Ulcer and Lower Extremity Amputation Among Medicare Beneficiaries, 2006 to 2008, the Agency for Healthcare Research and Quality (AHRQ) reports that in the Medicare Parts A and Part B fee-for-service beneficiaries who live with diabetes, the incidence of DFU is about 6% and lower extremity amputation about 0.5%. With a US population of approximately 314 million in 2012, of which approximately 47.7 million are Medicare recipients (with projected growth to 79 million by 2030), these complications will impact a considerable number of Americans and represent a sizable expense to the health system.

Access to efficacious therapies for DFU treatment and the prevention of amputations is critical to ensure optimum outcomes for people with these wounds. It is also one of the fundamental criteria for efficient healthcare spending. However, access to effective treatments can be restricted, depending on where the patient lives, where and by whom care is provided, or by the payer’s coverage criteria.8-11

TREATMENT OF DFUS

Many modalities and therapies are utilized during the management and treatment of DFUs, but none has shown more efficacious outcomes than offloading with total contact casting (TCC). Yet, it has been reported that less than 2% of practitioners utilize this basic modality during the treatment of DFUs. In 2008, Stephanie Wu, et al published a study of 901 clinical practices within the US that revealed only 1.7% of the centers surveyed utilized TCC in offloading DFUs.12 The authors noted that clinicians used shoe modifications as the most common form of pressure mitigation (41.2%), followed by removable cast walkers (ie, walking boots) at 15.2%, and non-weight-bearing (walkers/crutches) at 12.3%. Several reasons were reported for not utilizing TCC, including resistance to casting by the patient, inappropriateness for select patients, difficulty in application, lack of training, and low reimbursement. However, clinical studies and most randomized, controlled comparative studies have demonstrated...
improved healing rates and cost savings with TCC compared to standard methods of care without TCC for DFUs.13-24 These studies demonstrated that TCC results in consistent healing of active DFUs for 85-95% of patients in a range of 36-52 days. This has been further supported in a meta-analysis of 526 ulcers in 493 patients,25 where TCC use was shown to result in 88% healing in a mean time of 43 days. Boulton, et al in 2004 acknowledged TCC as a “gold standard” for active diabetic ulcer offloading.26

In 2009, an analysis of 108,000 hospital clinic patient visits in 26 wound centers across 16 states found significant savings when TCC is part of the treatment for DFUs.27 The average total treatment cost for diabetic foot ulcers including debridement and application of TCC was $11,946 per patient versus an average total treatment cost without TCC of $22,494 per patient. This represented a cost savings of $10,000 per patient with the application of TCC in the treatment regime. However, only 6% of DFU patients got a TCC, although it cut the cost of healing a DFU in half. This leads to the “million-dollar question” — why are so few clinicians providing this highly effective treatment modality with the most optimal healing rates? Is low adoption of TCC due to lack of access to proper training or knowledge of the healing results? Perhaps it’s related to patient resistance to casting or the clinician not clearly understanding how to bill correctly in order to be paid properly, or a combination of some or all of these issues?

PHYSICIAN OFFICE CODING FOR TCC

Application of TCC is a customized technique based on the location of the ulceration(s), fracture(s), or surgical wound site(s). The process includes evaluation and treatment of the diabetic ulcer wound site, if present, along with the application of protective stockinet and padding over tibial, malleolar, foot, and toe surfaces. This is followed by layers of plaster and/or fiberglass, or a combination of both casting materials and splints for rigidity. A rigid support footplate and walker heel, or an external rigid splint boot, may also be part of the application for ambulation.

The application of TCC is identified by the Current Procedure Terminology (CPT®) code 29445 (application of a rigid total contact cast, half leg, adult). Code 29445 is used by all payers to process claims. Physicians and other qualified healthcare professionals should utilize 29445 to bill for services provided in the hospital outpatient clinic and in the physician office. Unlike most CPT codes, the layers of casting materials (plastic and fiberglass) are not included in service code 29445. The American Medical Association has not included the cost of casting materials in the procedure expense relative value unit (PE-RVU) calculation, which accounts for practice expenses and supplies needed for the procedure. The PE-RVU is one of 3 RVU calculations used by payers to establish a payment fee for each CPT code. NOTE: Walking heels and splints are included in the CPT procedure. NOTE: If a surgical walking boot is also needed for TCC application, it is not included in the procedure expense allocation and is billable. Therefore, in a physician office (where the physician incurs the expense of the casting materials) these supplies should be separately coded, whether it is the first or subsequent cast application. Physician offices should use the appropriate Healthcare Common Procedure Coding System (HCPCS) codes on their claims to account for casting supplies along with TCC application (CPT 29445):

- Q4037 - cast supply, short leg cast, adult (11 + years), plaster, per roll
- Q4038 - cast supply, short leg cast, adult (11 + years), fiberglass, per roll
- L3260 - surgical boot/shoe, each.

Physicians should bill per unit (roll) of casting material utilized to complete the application of TCC. For example, some TCC systems require a layer of plaster followed by 3-4 layers of fiberglass to appropriately redistribute weight off the foot. Other systems now available include a “moldable sleeve” of fiberglass casting material to achieve pressure redistribution. Clinicians should bill for the amount of material they use to apply the cast. For a TCC procedure using a fiberglass moldable sleeve system, use HCPCS code Q4038 for fiberglass. In 2010, the Centers for Medicare & Medicaid Services’ HCPCS work group reviewed a TCC system that incorporated a fiberglass moldable sleeve (TCC-EZ® System, MedEfficiency Inc., now owned by Derma Sciences, Princeton, NJ) and instructed the manufacturer to utilize HCPCS code Q4038 for the fiberglass moldable sleeve. To be consistent and accurate in coding, the TCC-EZ moldable sleeve was compared in weight to individual rolls of fiberglass casting materials to determine the equivalency in weight to rolls of fiberglass. This exercise identified that approximately 3 rolls of standard fiberglass casting material is equivalent to a fiberglass moldable sleeve. Therefore, when physicians use this type of TCC product in their office, they should account for 3 units (rolls) of fiberglass on their claims to payers. In addition, if a surgical boot is used, it should be accounted for by coding HCPCS code L3260 as well. NOTE: Clinicians need to be aware that not all payers, including Medicare, will cover a walking boot for pressure offloading of a foot ulcer as part of a TCC application.

NOTE: There is inconsistency between payers on the number of units of casting supplies they will approve for and pay on claims with a CPT 29445 procedure.

HOPD CODING

Most of the hospital-based outpatient departments (HOPDs) are paid by the Medicare Ambulatory Payment Classification (APC) system. The APC system groups similar procedures that require similar resources. CPT code 29445 for the application of rigid, half leg cast is captured under APC 0426 (Level II Strapping and Cast Procedure). Therefore, when TCC is applied in an APC-paid HOPD, the facility should use the CPT code 29445. Casting materials are included
in the payment for 29445 in this site of service. **NOTE:** HOPDs that are not paid by the APC system may be able to use the HCPCS codes for the casting materials. The HOPD should verify this with the payer before applying TCC. (See “Business Briefs” on page 6 for a discussion about coding, payment, and coverage for the application of various compression systems, including TCC.)

### CHALLENGING ISSUES

Although TCC has been clinically validated in the literature to provide the most efficacious treatment outcomes for diabetic/neuropathic ulceration of the foot as opposed to all treatment modalities available today, payers are still lagging behind in appropriate coverage and payment to ensure access to TCC. It is imperative that wound care experts continue to use and document their clinical results with TCC and publish them to influence payers to properly and adequately compensate providers for providing the best possible and cost-effective approach for people living with DFUs. We all know that reducing the time that a diabetic wound is open can help reduce the risks of complications such as infection or amputation. These complications dramatically increase the cost of care and can negatively impact a person’s life. The reality is that use of TCC results in a greater percentage of healing DFUs in a shorter time. It also stands to reason that use of TCC can reduce over-utilization of more expensive modalities, since wounds can be managed effectively with TCC.

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### References


