Issues with Diagnosis Coding of Compromised Flaps

The Medicare National Coverage Determination for Hyperbaric Oxygen Therapy (NCD 20.29) includes "*Preparation and preservation of compromised skin grafts.*" Because this phrase does not include the word "flap", some believe that Hyperbaric Oxygen Therapy (HBOT) for a compromised flap is not covered by Medicare. The issue is complicated by two factors: (1) there are different uses of the term "graft"; and (2) common terminology used in physician documentation and in Medicare coverage documents on HBOT does not align with medical coding terminology.

In some references, skin grafts and flaps are distinctly different types of procedures, differentiated primarily by whether or not the blood supply is taken with the tissue. In other references, the term "graft" has a broader meaning, and a flap is a specific type of grafting procedure. In coding terminology, both grafts and flaps could be described as "transplanted tissue". The broader use of "graft" is more consistent with the vocabulary of diagnosis coding. "Graft" is commonly found in coding terminology but "flap" is almost non-existent.

The medical coder has the complex task of reading and interpreting physician documentation in order to determine the patient's diagnosis, which is then translated into a specific alphanumeric code within the International Statistical Classification of Diseases and Related Health Problems, 10th Edition (ICD-10). Because this is essentially a translation from one language to another, there are almost always different interpretations of the physician documentation. In the hospital billing office, the coder's mandate is to code for accuracy and specificity (not for payment). Coders are not allowed to assign diagnosis codes outside of what the physician documents, or they run the risk of personal liability. Therefore, coders are very conscientious about selecting diagnosis codes that accurately and specifically describe the condition documented by the physician in the medical record. It is the decision of the medical coder to determine the appropriate diagnosis coding of the patient condition we commonly refer to as "compromised flap".

Does Medicare intend to cover compromised flap?

Yes. Historically, Medicare's intent to cover HBOT for compromised flaps was communicated by Local Coverage Determinations (LCD) and/or Coverage Articles. For example, two Medicare Administrative Contractors (MAC), National Government Services (NGS) and CIGNA Government Services (CGS) state the following in their description of covered services:

> *"Preparation and preservation of compromised skin grafts utilizes HBO therapy for **graft or flap** salvage in cases where hypoxia or decreased perfusion have compromised viability. This indication is not for primary management of wounds. HBO therapy enhances **flap** survival. Treatments are given at a pressure of 2.0 to 2.5 ATA lasting from 90-120 minutes. It is not unusual to receive treatments twice a day. When the **graft or flap** appears stable, treatments are reduced to daily. Should a **graft or flap** fail, HBO therapy may be used to prepare the already compromised recipient site for a new **graft or flap**. It does not apply to the initial preparation of the body site for a graft. HBO therapy is not necessary for normal, uncompromised skin **grafts or flaps**. Medicare coverage does not apply to artificial skin grafts."*
> [Ref: NGS Medical Coverage Article A52380; CGS LCD L31872]

Two other MACs, Novitas Solutions and First Coast Service Options (FCSO) use almost identical language, except that the words "or flap" are not included [Ref: Novitas Solutions LCD L35021; First Coast Service Options L36504]. In these LCDs, there is a section titled "Non-Covered Conditions". Compromised flap is absent from this section. In fact, there has not been an LCD or Coverage Article explicitly excluding coverage for compromised flaps.

Does the term "compromised flap" exist in coding terminology?

No. Medicare (in their list of covered indications for HBOT) and most physicians do not use coding terminology to describe diagnoses. A medical coder will have to translate the documented diagnosis into ICD-10 terminology.

How does a coder actually find an ICD-10 code?

In the hospital setting, coders typically utilize coding software to assign ICD-10 codes. The coder enters key words from the physician documentation. The software then asks a series of subsequent questions that ultimately lead to the most specific diagnosis code. If the physician documentation is not sufficient for the coder to respond to the software's questions, the coder has two choices: either submit a query to the physician asking for additional clarification, or assign a less specific diagnosis code based upon the documentation available. It is easier to understand the complexity of assigning diagnosis codes by discussing the manual coding process, where a coder utilizes the alphabetic index in the ICD-10 coding manual.

There is a challenge when a coder tries to assign an ICD-10 code for "compromised flap" because there is no direct line from "compromised flap" to an ICD-10 code. The key word "flap" is a dead end because the only reference to the word "flap" in the alphabetical index is a liver flap, which is not appropriate. The key word "compromised" does not appear in the alphabetical index either. The closest terms are "rejection", "failure", or "complication". A coder will most likely begin with "complication". From this point there are numerous paths a coder can take; most of which lead to a diagnosis that is not payable for HBOT. The ICD-10 code assigned is extremely dependent on the coder's access to additional information beyond the phrase "compromised flap" [see Figure 1 below].

Are there ICD-10 codes that are payable for HBOT of grafts/flaps?

Yes. There are four diagnosis codes approved by Medicare for this indication: **T86.820, T86.821, T86.822** and **T86.828**. The ICD-10 description and the possible paths that would lead a coder to each of these diagnosis codes are listed in the following table.

ICD-10	DESCRIPTION	POSSIBLE CODING PATHWAYS
T86.820	Skin graft (allograft) *rejection*	Complication/Skin/Graft/Rejection Complication/Graft/Skin/Prosthetic device or implant/Skin graft/Rejection Complication/Transplant/Skin/Rejection Rejection/Transplant/Skin (allograft) (autograft)
T86.821	Skin graft (allograft) (autograft) *failure*	Complication/Skin/Graft/Failure Complication/Graft/Skin/Prosthetic device or implant/Skin graft/Failure Complication/Transplant/Skin/Failure Failure/Transplant/Skin (allograft) (autograft)
T86.822	Skin graft (allograft) (autograft) *infection*	Complication/Skin/Graft/Infection Complication/Graft/Skin/Prosthetic device or implant/Skin graft/Infection Complication/Transplant/Skin/Infection
T86.828	Other complications of skin graft (allograft) (autograft)	Complication/Skin/Graft/Specified type NEC Complication/Graft/Skin/Prosthetic device or implant/Skin graft/Specified type NEC Complication/Transplant/Skin/Specified type NEC

What documentation must be present to ensure appropriate diagnosis code assignment?

If everyone agrees that a flap is a type of grafting, then "compromised flap" will likely be coded through one of the pathways described in the table above. The medical record must reflect the description of the postoperative state of flap/graft (e.g., tissue mottling or necrosis), justifying the medical necessity for HBOT. If possible, documentation should also include a description of the area prior to the flap/graft procedure (including location, measurements, grade or state). Inclusion of the operative note from the flap/graft procedure is also helpful.

Is a non-healing amputation stump a compromised flap?

Maybe. Without additional information, physician documentation of "non-healing amputation stump" or "compromised flap" from an amputation procedure will likely be coded as a complication of the amputation stump, which will not be payable for HBOT. The physician must document the underlying reason for the amputation (e.g. "the patient presented with non-reversible vascular compromise which then progressed to an amputation as a result of poor vascular status"). If the resulting flap then becomes compromised by ischemia or hypoxia (as demonstrated by transcutaneous oxygen measurements and/or by documented signs/symptoms), it will likely be coded through one of the pathways described in the table above.

Is it a problem if the hospital coder and physician's practice coder disagree?

Yes. Medicare claims for hospital and physician services go to the same MAC. A MAC can automatically detect when hospital and physician ICD-10 codes do not correspond. Medicare will assume that either the hospital or physician is incorrect and may disallow payment to both entities.

Figure 1

This diagram illustrates the complexity of diagnosis coding by showing possible pathways a coder might take from the phrase “compromised flap” (not all possible pathways are shown). It also provides key words that might be helpful to the coder if used in provider documentation. Only the codes highlighted in yellow are payable for HBOT.