



## **Commentary on Abuse of the Diagnosis of Acute Peripheral Arterial Insufficiency as an Indication for Outpatient HBO Therapy**

An increasing number of outpatient chronic wound care centers are diagnosing/coding patients and filing claims for the hyperbaric treatment of acute peripheral arterial insufficiency (APAI). It does not require a great deal of analysis to recognize that both this clinical setting and this primary therapeutic approach are at odds and out of context with generally accepted medical and surgical standards of care.

APAI is a medical emergency. An inter-society consensus statement<sup>1</sup>, authoritative surgical texts,<sup>2, 3</sup> the American Medical Association<sup>4</sup>, and the Centers for Medicare and Medicaid Services<sup>5, 6</sup> define this condition as an acute onset extremity arterial embolism or thrombus. More specifically, APAI is defined as a sudden occlusion within, or decrease in perfusion of, a major artery within the lower extremity, involving femoral, popliteal or brachial vessels.<sup>4, 5</sup> Presentation is normally up to two weeks following the acute event. Beyond two weeks it is considered to represent a chronic condition.<sup>1</sup>

Emergency surgery is imperative if extensive tissue loss is to be avoided or the extremity itself is to be salvaged. Surgery may take the form of the traditional open vessel approach in order to directly evacuate the thrombus. More commonly today, catheter directed thrombolytic therapy is employed.

APAI may also occur from an external physical force, resulting in a compartment syndrome. Again, the primary therapeutic approach is likely to be operative. If compartment pressures are significant enough to completely interrupt distal perfusion, prompt surgical decompression is necessary. Where compartment pressures are less profound, with some degree of distal perfusion apparent, an initial period of watchful waiting, until compartment pressures ultimately declare themselves, may be appropriate.

It is perplexing therefore, that such an acute medical emergency is being seen with increasing frequency in the largely medical office building setting of the outpatient chronic wound center, where services are only available during normal (M-F) business hours. Even more perplexing, essentially all of these patients being diagnosed and coded as APAI actually present with ulcers, of various etiologies, within the lower extremity. Somewhere within the wound care center's evaluation and management process, a non-healing chronic wound becomes an acute peripheral arterial insufficiency. One possible explanation is that there is no other 'medically necessary' indication for the patient's chief complaint (a chronic wound) to qualify for HBO therapy reimbursement under respective insurance compliance requirements by those who purchase health care.

Certainly, actual cases of APAI can indeed represent an indication for HBO therapy. The goal of hyperbaric oxygenation in this instance, however, is to enhance oxygen delivery at the tissue level in



support of its viability until a definitive surgical procedure (lysis or direct clot evacuation) can be undertaken.<sup>4,5</sup> HBO is occasionally continued in the immediate surgical aftermath. To be effective, therefore, HBO therapy must be readily available on a 24/7 basis and initiated immediately. One cannot rely on or otherwise expect an outpatient 'normal business hours only' wound care center to be in a position to treat an APAI on the basis of its desired therapeutic mechanism.

It is clear from the definitions above that APAI is *not* peripheral arterial occlusive disease. Nor is APAI a chronic lower extremity ulcer, even one secondary to chronic arterial insufficiency.

To qualify for HBO therapy from a reimbursement perspective, APAI is coded as either 444.21 (upper extremity) or 444.22 (lower extremity). The ICD-9-CM descriptor for these two codes states 'Arterial embolism or thrombosis, including embolic or thrombotic infarction, involving femoral or popliteal vessels'.<sup>3</sup>

Given the seriousness of APAI and the immediacy required of surgical management if significant tissue loss and related morbidity is to be averted, one would expect such patients to be hospitalized during the hyper-acute period. In fact, the 'Medicare Contractor Information for Hyperbaric Oxygen Therapy' position published by Palmetto GBA LCD<sup>6</sup> specifically states that **"Claims for HBO submitted with ICD-9-CM codes...444.21 and 444.22...are presumed to be HBO therapy provided to inpatients requiring acute/emergent treatment."** Palmetto GBA's LCD goes on to state that claims for these two codes require a dual diagnosis code, namely V58.73, 'aftercare following surgery of the circulatory system'.

CMS and other purchasers of health care can determine their respective financial losses related to this treatment indication manipulation by matching claims coded as ICD-9-CM 444.22 with location of service codes 11 (medical office building) and 22 (hospital outpatient). Almost without exception, these claims will be unrelated to APAI. Rather, they will relate to the treatment of lower extremity wounds not otherwise reimbursable as an indication for HBO therapy.

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<sup>1</sup> Norgren L, et al. Inter-Society Consensus for the Management of Peripheral Arterial Disease (TASC II). *Journal of Vascular Surgery* 2007;45(1):Suppl.S.

<sup>2</sup> *Vascular Surgery: Principals and Practices, Third Edition 2003, Chapter 27, Ed's Hobson RW, Wilson SE, Veith FJ. Marcel-Dekker, Inc.*

<sup>3</sup> *Vascular Surgery: A Comprehensive Review. Sixth Edition 2001, Ed Moore WS. WB Saunders Company*

<sup>4</sup> American Medical Association: ICD-9-CM 2013, Volumes 1 & 2

<sup>5</sup> Novitas Solutions; Medicare LCD: L32739, HBO Therapy 8/13/2012

<sup>6</sup> Palmetto GBA: Medicare LCD: L31579, HBO Therapy 4/15/2013