

# Management of Chronic Suppurative Otitis Media and Otosclerosis in Developing Countries

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## KEYWORDS

- Cholesteatoma • Chronic ear disease • Chronic suppurative otitis media
- Otosclerosis • Stapedectomy

## KEY POINTS

- Chronic suppurative otitis media is a major cause of acquired hearing loss in the developing world.
- Goals of treatment are to create a dry, safe ear and restore hearing with tympanic membrane repair.
- Health care workers should be trained to triage patients for surgery who do not respond to medical therapy, and identify complications of chronic ear disease that require urgent surgical care.
- Otosclerosis is prevalent and largely undertreated in the developing world.
- Surgeons on humanitarian missions should be prepared to address all complications of stapes surgery, and can expect to encounter a higher rate of obliterative otosclerosis.

## INTRODUCTION

Chronic suppurative otitis media (CSOM) is a recurrent and persistent infectious process of the middle ear. In a subset of patients, the CSOM is associated with the

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**Fig. 1.** Otoscopic view of a patient's right tympanic membrane perforation with discharge indicative of chronic ear disease. (Courtesy of Richard Wagner, MD, Coupeville, WA.)

presence of cholesteatoma. Both conditions are characterized by chronic aural drainage, hearing loss, and often tympanic membrane perforation (Fig. 1).

CSOM is a major cause of acquired hearing loss in the developing world and, if untreated, can lead to further morbidity and mortality in rare cases. Access to effective medical treatments, such as antibiotics, are often expensive and not widely available in most developing countries.<sup>1</sup> CSOM usually begins with one or more episode of acute otitis media, which eventually leads to a tympanic membrane perforation and a chronic infection. CSOM is defined by drainage lasting longer than 6 weeks, but may last for months or years despite treatment.<sup>2</sup>

### ***Chronic Suppurative Otitis Media***

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#### ***Global incidence and prevalence***

CSOM occurs on every continent, but occurs at a higher frequency among developing nations.<sup>3,4</sup> In the United States, CSOM occurs at a rate of less than 1%, whereas in many developing countries the higher rates of greater than 4% are observed.<sup>5</sup> However, the global prevalence of CSOM cannot be explained fully by the socioeconomic status of a particular country, with available prevalence data displaying heterogeneity within regions with similar socioeconomic status (Fig. 2).

In sub-Saharan Africa, there are a number of studies that examine the prevalence rates of CSOM in school children, with rates of chronic otitis media from 0.4% to 4.2%.<sup>6,7</sup> Studies from Thailand, Vietnam, Korea, and Malaysia showed a prevalence of CSOM from 0.9% to 4.7%. A recent study in India had a higher prevalence of 7.8%. Australian Aborigines were observed to have the highest prevalence rate with a range of 28% to 43%. Native Alaskans and Greenlanders also have high prevalence rates, ranging from 2% to 10%.<sup>5</sup> An Australian study of rates of hearing loss from CSOM varied among indigenous populations living in urban and rural settings. 0.7% of urban indigenous children had a 30-dB hearing loss or greater versus 20% of children in a Western Australian rural indigenous community.<sup>8</sup>

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