



# **CHRONIC SUPPURATIVE OTITIS MEDIA - the road to WHO**

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Hearing Conservation Council**

**Coalition for Global Hearing Health – Conference 25-26 July 2014  
St Catherine's College, Oxford, United Kingdom**



WORLD HEALTH ORGANIZATION  
PREVENTION OF DEAFNESS AND HEARING IMPAIRMENT (PDH)

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Report  
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WHO/CIBA Foundation Workshop

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Number Two in the series:  
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- In this meeting, chronic otitis media = chronic suppurative otitis media & chronic perforation of the tympanic membrane
- COM is an important public health problem with substantial economic and societal costs.
- CSOM prevalence  $\geq 1\%$  in children indicates there is an unavoidable burden of the disease, dealt with in the general health care context.
- CSOM prevalence  $\geq 4\%$  in children indicates a massive public health problem, needs urgent attention in targeted populations.
- COM is a major global cause of hearing impairment, and this may have serious long-term effects on language, auditory and cognitive development and educational progress.

**Table 1. Global prevalences of COM**

<b>GROUP</b>	<b>POPULATION</b>	<b>PREVALENCE</b>
<b>Highest</b>	Inuits	12-46 %
	Australian Aboriginals	12-25 %
	Native Americans	4-8 %
<b>High</b>	5 Pacific Islands	4-6 %
	Africa	3-6 %
<b>Low</b>	Korea	2 %
	India	2 %
	Saudi Arabia	1.4 %
<b>Lowest</b>	USA	< 1 %
	UK	< 1 %

Chronic suppurative otitis media  
**Burden of Illness  
and Management Options**



Child and Adolescent Health and Development  
Prevention of Blindness and Deafness

World Health Organization  
Geneva, Switzerland  
2004

## **Definition**

Chronic suppurative otitis media (CSOM) is defined as a chronic inflammation of the middle ear and mastoid cavity, which presents with recurrent ear discharges or otorrhoea through a tympanic perforation.

Table 1. Classification of countries according to CSOM prevalence

<b>Group</b>	<b>Populations</b>
Highest (>4%) – urgent attention needed to deal with a massive public health problem	Tanzania, India, Solomon Islands, Guam, Australian Aborigines, Greenland
High (2–4%) – avoidable burden of disease must be addressed	Nigeria, Angola, Mozambique, Republic of Korea, Thailand, Philippines, Malaysia, Vietnam, Micronesia, China, Eskimos
Low (1–2%)	Brazil, Kenya
Lowest (<1%)	Gambia, Saudi Arabia, Israel, Australia, United Kingdom, Denmark, Finland, American Indians



Table 5. Frequency of hearing impairment from CSOM in different study settings

Setting	Proportion of CSOM cases with hearing impairment	Proportion of cases of hearing impairment due to CSOM
Luanda, Angola (slum area)	66%	9.8% (12)
Angola (refugee camp)	52%	3.3% (15)
Tanzania (urban and rural district)	64.7%	3.6%
Tanzania (354 deaf children)		8.8% (117)
Luanda, Angola and Tanzania combined	63%	8.7%
Kenya	63% (76)	
Greenland (167 children)		14.5% (76)
Bauru, Brazil (urban poor and orphanage)	100%	13.7%
India	77%	
Sierra Leone (2015 rural children)		26.4% (151)
Thailand (6046 people from 6 regions)		52.2% (7)
Burma (90 000 schoolchildren)		80% (183)
Saudi Arabia (6421 schoolchildren)		19% (8)

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3.4% of children without CSOM had HI (relative risk of HI =18.3)

GLOBAL BURDEN OF DISEASE	All ages DALYs (thousands)	
	1990	2010
Sense organ diseases	25 169 (18 140–35 220)	34 733 (25 167–47 663)
Glaucoma	443 (338–561)	943 (725–1178)
Cataracts	4 225 (3 283–5 364)	4 732 (3 647–6 010)
Macular degeneration	513 (388–647)	1 329 (1 026–1 668)
Refraction and accommodation disorders	3 608 (2 688–4 762)	5 593 (4 117–7 468)
Other hearing loss	12 211 (7 258–19 495)	15 761 (9 455–25 210)
Other vision loss	4 069 (2 171–7 180)	6 240 (3 260–11 208)
Other sense organ diseases	100 (34–231)	136 (46–309)
→ Otitis media	4 171 (2 521–8 188)	4 680 (2 946–7 589)
Trachoma	144 (104–189)	334 (243–438)

	All ages deaths (thousands)		
	1990	2010	%Δ
→ Otitis media	5.2 (0.0–61.0)	3.5 (0.0–39.8)	-33.5%
Meningitis	492.2 (444.1–583.3)	422.9 (360.2–471.7)	-14.1%

	Age-standardised death rates (per 100 000)		
	1990	2010	%Δ
→ Otitis media	0.1 (0.0–1.0)	<0.05 (0.0–0.6)	-42.3
Meningitis	8.1 (7.4–9.4)	6.1 (5.1–6.7)	-25.0

# WHO Media Centre: Deafness and hearing loss

Fact sheet N°300 (Updated February 2014)

## Acquired causes

- Chronic ear infection, which commonly presents as discharging ears, can lead to hearing loss. In certain cases this condition can also lead to serious, life-threatening complications, such as brain abscesses or meningitis.
- Collection of fluid in the ear (otitis media) can cause hearing loss.
- Among children, chronic otitis media is the leading cause of hearing loss.

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### The 17 neglected tropical diseases

The neglected tropical diseases result from four different causative pathogens:

Virus

[Dengue/Severe dengue](#)

[Rabies](#)

Protozoa

[Chagas disease](#)

[Human African trypanosomiasis \(sleeping sickness\)](#)

[Leishmaniases](#)

Helminth

[Cysticercosis/Taeniasis](#)

[Dracunculiasis \(guinea-worm disease\)](#)

[Echinococcosis](#)

[Foodborne trematodiasis](#)

[Lymphatic filariasis](#)

[Onchocerciasis \(river blindness\)](#)

[Schistosomiasis](#)

[Soil-transmitted helminthiasis](#)

Bacteria

[Buruli ulcer](#)

[Leprosy \(Hansen disease\)](#)

[Trachoma](#)

[Yaws](#)

Other neglected conditions:

[Chronic suppurative otitis media \(CSOM\)](#)

[Mycetoma](#)

[Nodding Syndrome \(NS\)](#)



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#### Contact

Control of NTD  
[neglected.diseases@who.int](mailto:neglected.diseases@who.int)

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leishmaniasis

dracunculiasis (guinea-worm disease)

foodborne trematodiasis

lymphatic filariasis

onchocerciasis (river blindness)

schistosomiasis

trachoma (eye disease)



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### Other neglected conditions:

Chronic suppurative otitis media (CSOM)

Mycetoma

Nodding Syndrome (NS)

Podoconiosis

Scabies

Snakebite

Strongyloidiasis

Other neglected conditions:

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The neglected tropical diseases result from four different causative pathogens:

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  - Rabies 1462
- Protozoa**
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  - Human African trypanosomiasis (sleeping sickness) 560
  - Leishmaniases 3317
- Helminth**
  - Cysticercosis/Taeniasis 503
  - Dracunculiasis (guinea-worm disease)
  - Echinococcosis 144
  - Foodborne trematodiasis 1875
  - Lymphatic filariasis 2775
  - Onchocerciasis (river blindness) 494
  - Schistosomiasis 3309
  - Soil-transmitted helminthiasis 5184
- Bacteria**
  - Buruli ulcer
  - Leprosy (Hansen disease) 6
  - Trachoma 334
  - Yaws

### tropical diseases

#### neglected tropical diseases

neglected tropical diseases result from four different causative pathogens:

- dengue
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- dracunculiasis (guinea-worm disease)
- trematodiasis
- filariasis
- onchocerciasis (river blindness)
- helminthiasis
- chagas disease



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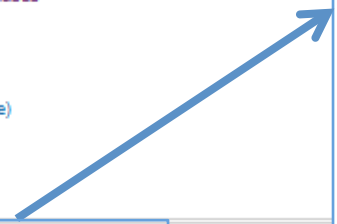
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### CSOM

**What is chronic suppurative otitis media (CSOM)?**

CSOM is an inflammatory condition of the ear that causes recurrent ear discharge (otorrhoea) through a perforation of the ear drum (tympanic membrane). The disease usually begins in childhood, as a spontaneous tympanic perforation resulting from an acute infection of the middle ear, known as acute otitis media (AOM), or as a sequel of less severe forms of otitis media (otitis media with effusion).



CSOM is an inflammatory condition of the ear that causes recurrent ear discharge through a perforation of the ear drum.

**What is the prevalence of CSOM?**

Prevalence surveys, which vary widely in methodology, estimate that the global burden of illness from CSOM may involve 65 to 330 million individuals with draining ears. According to the 2004 WHO report on CSOM, the prevalence of CSOM ranges from less than 1% in developed countries (such as the Denmark, Finland, UK and USA), to as high as 30% to 46% among certain groups, such as the Inuits of Alaska, Australian aboriginals and others. The report categorized the countries for which data were available based on the prevalence of CSOM into lowest, low, high and highest. The lowest were those countries with prevalence below 1% (mentioned

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#### WHO publications

Read WHO publications on CSOM.

[Effectiveness of shortened course \(<= 3 days\) \[less than or equal to 3 days\] of antibiotics for treatment of acute otitis media in children](#)

A systematic review of randomized controlled efficacy trials. World Health Organization, 2009

[Chronic suppurative otitis media : burden of illness and management options](#)

World Health Organization, 2004

[Prevention of hearing impairment from chronic otitis media](#)

Report of a WHO/CIBA Foundation Workshop, London, U.K., 19-21 November 1996

[http://www.who.int/neglected\\_diseases/diseases/otitis/en/](http://www.who.int/neglected_diseases/diseases/otitis/en/)

# Definition

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