

# JOS system 2016 (日本耳科学会案) Staging and Classification for Middle Ear Cholesteatoma

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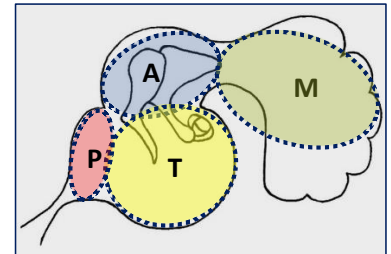
## Classification of Middle Ear Cholesteatoma

- I. Acquired cholesteatoma
  - 1) Retraction pocket cholesteatoma (*so-called primary acquired cholesteatoma*)
    - a) Pars flaccida cholesteatoma (Attic cholesteatoma)
    - b) Pars tensa cholesteatoma
    - c) Combination of pars flaccida and pars tensa cholesteatoma
  - 2) Non retraction pocket cholesteatoma
    - a) Cholesteatoma secondary to a chronic tensa perforation (*so-called secondary acquired cholesteatoma*)
    - b) Transplanted cholesteatoma following trauma or otologic procedures
- II. Congenital cholesteatoma
- III. Unclassifiable cholesteatoma

## Staging of Middle Ear Cholesteatoma

### 1. Divisions of the middle ear space (PTAM system)

Schematic drawing of divisions of the tympanomastoid space. The tympanomastoid space is divided into four sections: the protympanum (P), the tympanic cavity (T), the attic (A) and the mastoid (M) in order to represent the extent of cholesteatoma.



### 2. The JOS staging system applies to 4 types of middle ear cholesteatoma

(Pars flaccida cholesteatoma, pars tensa cholesteatoma, congenital cholesteatoma and cholesteatoma secondary to a tensa perforation)

#### Stage I

**Cholesteatoma localized in the primary site\***

\* The site of cholesteatoma origin, i.e. the attic (A) for a pars flaccida cholesteatoma; the tympanic cavity (T) for pars tensa cholesteatoma, congenital cholesteatoma and cholesteatoma secondary to a tensa perforation.

#### Stage II

**Cholesteatoma involving two or more sites**

#### Stage III

**Cholesteatoma with extracranial complications and/or intratemporal pathologic conditions**

Facial palsy (FP), labyrinthine fistula (LF): with conditions at risk for membranous labyrinth, labyrinthine disturbance (LD): scale out BC values for more than two speech frequencies (0.5, 1, and 2kHz), canal wall destruction (CW): more than half the length of the bony ear canal, adhesive otitis (AO): total adhesion of the pars tensa, petrous bone or skull base destruction (PB), neck abscess (NA).

#### Stage IV

**Cholesteatoma with intracranial complications including**

Purulent meningitis, epidural abscess, subdural abscess, brain abscess, sinus thrombosis, etc.

### 3. Sub-classification of stage I for respective cholesteatoma types

#### Pars flaccida cholesteatoma

Stage I: Cholesteatoma localized in the attic

Stage Ia: A retraction pocket with epithelial self-cleaning function

Stage Ib: A retraction pocket with persistent accumulation of keratin-debris

#### Pars tensa cholesteatoma

Stage I: Cholesteatoma localized in the tympanic cavity

Stage Ia: A retraction pocket with epithelial self-cleaning function

Stage Ib: A retraction pocket with persistent accumulation of keratin-debris

#### Cholesteatoma secondary to a tensa perforation

Stage I: Cholesteatoma localized in the tympanic cavity

Stage Ia: Epithelial invasion confined to the underside of the pars tensa

Stage Ib: Epithelial invasion extending to the tensor tympani tendon and the promontorial wall

#### Congenital cholesteatoma

Stage I: Cholesteatoma localized in the tympanic cavity

Stage Ia: Cholesteatoma confined to the anterior half of the tympanic cavity

Stage Ib: Cholesteatoma confined to the posterior half of the tympanic cavity

Stage Ic: Cholesteatoma involving both of sides of the tympanic cavity