**Table S1 Criteria for Classifying Family Members as Affected with COME/ROM for the University of Minnesota Study**

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| --- | --- |
| **Data source** | **Abnormal (evidence of ROM/COME history)\*** |
| Ear exam | Retraction Perforation  Atrophy Drainage  Tympanosclerosis Tympanostomy tube  Cholesteatoma Monomer |
| Tympanogram | **Age >10 yrs** (a)  Y1 ≤0.3 or >1.7 mmho (b)  TW2 ≥180 daPa (b)  Resonant frequency <630 Hz or >1400 Hz  Abnormal van Huyse pattern at 630 or 1400 Hz |
|  | **Age ≤10 yrs** (c)  Y1 ≤0.3 or ≥1.1 mmho  TW2 ≥150 daPa  Resonant frequency <710 Hz or >1400 Hz  Abnormal van Huyse pattern at 710 or 1400 Hz |
| Self-reported history  Medical record | **Adult**  Had tympanostomy tubes  ≥3 OM episodes in a year or 6 episodes before age 6  History of perforation, otorrhea, tympanosclerosis, mastoidectomy, cholesteatoma, tympanoplasty.  **Child**  Had tympanostomy tubes  ≥3 OM episodes in a year or 6 episodes before age 6  Tympanostomy tubes Otorrhea  OME => 2 months Perforation  Tympanosclerosis Mastoidectomy  Cholesteatoma Tympanoplasty  => 3 OM episodes in a year or 6 episodes by age 6 |

\* A data source was considered abnormal if ≥1 finding was present.

(a): <5th or 95th percentile ranges for adults [[1](#_ENREF_1)]

(b): Y1 = static admittance, TW2 = tympanometric width.

(c): <5th or >95th percentile ranges for children [[2](#_ENREF_2),[3](#_ENREF_3),[4](#_ENREF_4)]

**Reference**

1. Margolis RH, Goycoolea HG (1993) Multifrequency tympanometry in normal adults. Ear Hear 14: 408-413.

2. Koebsell KA, Margolis RH (1986) Tympanometric gradient measured from normal preschool children. Audiology 25: 149-157.

3. Margolis RH, Heller JW (1987) Screening tympanometry: criteria for medical referral. Audiology 26: 197-208.

4. Margolis RH, Hunter LL, Rykken JR, Giebink GS (1993) Effects of otitis media on extended high-frequency hearing in children. Ann Otol Rhinol Laryngol 102: 1-5.