INTRODUCTION:

Temporal bone/mastoid computed tomography (CT) is a unique study performed for problems such as conductive hearing loss, chronic otitis media, mastoiditis, cholesteatoma, congenital hearing loss and cochlear implants. It is a modality of choice because it provides 3D positional information and offers contrast for different tissue types.

INDICATIONS FOR TEMPORAL BONE, MASTOID CT:

- For evaluation of conductive hearing loss.
- For evaluation of chronic otitis media, ear infections or drainage.
- For evaluation of mastoiditis.
- For evaluation of cholesteatoma.
- For evaluation of congenital hearing loss or deformity.
- For evaluation of dehiscence of the jugular bulb or carotid canal.
- For evaluation of aberrant blood vessels or malformations.
- For evaluation of cochlear implants.

ADDITIONAL INFORMATION RELATED TO TEMPORAL BONE, MASTOID CT:

Request for a follow-up study - A follow-up study may be needed to help evaluate a patient’s progress after treatment, procedure, intervention or surgery. Documentation requires a medical reason that clearly indicates why additional imaging is needed for the type and area(s) requested.

Conductive Hearing Loss – Conductive hearing loss may be caused by fluid in the middle ear resulting from otitis media or from eustachian tube obstruction. CT scans may demonstrate underlying problems due to its aid in visualization of the middle ear space and the mastoid.

Chronic Otitis – When the eustachian tube is blocked for long periods of time, the middle ear may become infected with bacteria. The infection sometimes spreads into the mastoid bone behind the ear. Chronic otitis may be due to chronic mucosal disease or cholesteatoma and it may cause permanent damage to the ear. CT scans of the mastoids may show spreading of the infection beyond the middle ear.

Mastoiditis – CT is an effective diagnostic tool in determining the type of therapy for mastoiditis, a complication of acute otitis media leading to infection in the mastoid process.
**Cholesteatoma** – A cholesteatoma is a cyst-like mass occurring most commonly in the middle ear and mastoid region. CT scanning may help to determine the extent of the disease process. It can determine the extent of cholesteatoma by showing the combination of a soft tissue mass and bone erosion.

**Congenital Hearing Loss** - Genetic factors and factors present either in utero or at time of birth may cause congenital hearing loss in children. High-resolution CT provides the examination of choice furnishing anatomic detail for planning a surgical approach.

**Cochlear Implants** – Cochlear implants provide an opportunity to restore partial hearing. The electronic device, surgically implanted, converts sound to an electrical signal. CT allows the visualization of cochlear anatomy and provides 3D positional information. CT also offers contrast for different tissue types and may be used even when the implant is in place.
REFERENCES


