

Block 2

This study is to help determine appropriate grading procedures for mastoidectomy surgery. You are being asked to participate in this study because you are an attending surgeon with expertise in mastoidectomy. We will share the data collected freely for researchers to use.

Your participation is voluntary, and you can stop taking the survey at any time without penalty or loss of benefits.

The survey will take about 5 minutes to complete. No identifying information about you will be asked for or saved.

If you have any questions about the study, please contact Thomas Kerwin (kerwin@osc.edu). For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact Ms. Sandra Meadows in the Office of Responsible Research Practices at 1-800-678-6251.

This research is sponsored by the National Institute for Deafness and Other Communication Disorders.

If you want to continue, please press the double arrow button ">>".

Block 3

Are you an attending otologist?

Yes

No

On average, how many mastoidectomy procedures do you perform per year?

Less than 40

41-60

61-80

81-100

More than 100

How many years have you been in practice?

Default Question Block

For the following items, please indicate the **minimum skill** that a person needs to show in order to be considered in each of two categories: "Able to perform surgery with supervision" and "Able to perform surgery without supervision". Examples are provided of behavior that can be considered demonstrating no skill, moderate skill, and expert skill for each item.

Maintains visibility of burr while removing bone.

- **Demonstrates no skill:** Burr view dangerously obstructed (example beneath bony ledge when thinning tegmen).
- **Demonstrates moderate skill:** Burr visibility safely unobstructed throughout procedure
- **Demonstrates expert skill:** Burr visibility occasionally obstructed but at times when it is safe to do so, during decortication of mastoid

Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
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Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

Avoids excessive force near critical structures.

- **Demonstrates no skill:** Does not alter force when approaching critical structures
- **Demonstrates moderate skill:** Alternates between minimal force and moderate force throughout case
- **Demonstrates expert skill:** Uses high force when appropriate, such as decortication of mastoid

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

Creates appropriate depth of cavity.

- **Demonstrates no skill:** Antrum not entered or horizontal canal not visualized
- **Demonstrates moderate skill:** Antrum opened without damage to horizontal canal or tegmen
- **Demonstrates expert skill:** Antrum widely opened with adequate thinning of tegmen and posterior superior canal wall

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

Avoids holes in tegmen.

- **Demonstrates no skill:** Tegmen and dura violated
- **Demonstrates moderate skill:** Dura exposed without violation
- **Demonstrates expert skill:** Tegmen thinned appropriately for surgical approach, possibly removing tegmen to retract dura for better exposure.

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

Selects appropriate burr.

- **Demonstrates no skill:** Uses too small or too large of a burr for task at hand, uses diamond burr for decortication or when not necessary, or uses cutting burr in close proximity to critical structure
- **Demonstrates moderate skill:** May use too small or too large a burr for occasion or using diamond burr excessively
- **Demonstrates expert skill:** Uses cutting and diamond burs appropriately, such as using cutting burr to enhance speed of dissection but in a safe manner.

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

Avoids violation of the sigmoid sinus.

- **Demonstrates no skill:** Penetrates sigmoid, unaware of it's location
- **Demonstrates moderate skill:** Exposes sigmoid enough to identify sufficiently to avoid violation but may leave overlying air cells.
- **Demonstrates expert skill:** Sigmoid well defined for procedure, may expose sigmoid for retraction and better exposure

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

Correct identification of chorda tympani nerve

- **Demonstrates no skill:** Does not identify or expose chorda
- **Demonstrates moderate skill:** Opens facial recess but does not identify chorda completely
- **Demonstrates expert skill:** Exposes and widely opens facial recess without violations of chorda or facial nerves.

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

Drills in best direction.

- **Demonstrates no skill:** Drills perpendicular to critical structures or without regard to trajectory of critical structure
- **Demonstrates moderate skill:** Maintains drill direction parallel to critical structures
- **Demonstrates expert skill:** Alternates drill direction rapidly for efficient removal of bone without jeopardizing critical structures

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

External auditory canal remains up.

- **Demonstrates no skill:** Significant posterior canal wall lowering deep to lateral extent
- **Demonstrates moderate skill:** Minor lowering of posterior canal wall
- **Demonstrates expert skill:** Maintains posterior canal wall completely intact

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

Avoids holes in external auditory canal.

- **Demonstrates no skill:** Multiple or large holes in posterior canal wall
- **Demonstrates moderate skill:** Minor, clinically insignificant holes in posterior canal wall
- **Demonstrates expert skill:** No holes in posterior canal wall

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

Maintains a complete saucerization.

- **Demonstrates no skill:** Residual air cells, facial ridge not identified, antrum not opened appropriately, tegment and sigmoid not defined
- **Demonstrates moderate skill:** Adequate air cell removal to avoid damage to critical structures, antrum opened sufficient for visualization of horizontal canal, fossa incudus, etc.
- **Demonstrates expert skill:** All necessary air cells removed and critical structures well defined

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

Posterior external auditory canal wall is thinned appropriately.

- **Demonstrates no skill:** Posterior canal wall thick, poor definition of facial ridge if any
- **Demonstrates moderate skill:** Partial definition of facial ridge,
- **Demonstrates expert skill:** Sufficient thinning to fully expose facial nerve and chorda tympani for recess approach

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

Avoids violation of the facial nerve.

- **Demonstrates no skill:** Facial nerve violated
- **Demonstrates moderate skill:** Facial nerve partially exposed
- **Demonstrates expert skill:** Facial nerve exposed completely throughout its course in the mastoid

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

Avoids violation of the horizontal (lateral) semi-circular canal.

- **Demonstrates no skill:** Horizontal canal violated
- **Demonstrates moderate skill:** Horizontal canal accidentally blue lined
- **Demonstrates expert skill:** Horizontal canal easily identified, may blue line as needed for exposure

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

Avoids drill contact with ossicles.

- **Demonstrates no skill:** Contact ossicles with cutting burr
- **Demonstrates moderate skill:** Contacts ossicles with diamond burr
- **Demonstrates expert skill:** Drills close to ossicles with appropriate burr

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

Avoids violation of dura.

- **Demonstrates no skill:** Dura violated (opened)
- **Demonstrates moderate skill:** May overthin tegmen and expose dura without violation
- **Demonstrates expert skill:** Tegmen completely dissected to sinodural angle, dura may be exposed intentionally

	Demonstrates no skill	Demonstrates slight skill	Demonstrates moderate skill	Demonstrates high skill	Demonstrates expert skill
Able to perform surgery with supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Able to perform surgery without supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any comments you have about the previous item.

Block 1

For each of the items below, indicate in which category you think it belongs. Feel free to indicate more than one if you feel it belongs to multiple categories.

	Tool control	Bone shaping	Avoiding over-removal
Maintains visibility of burr while removing bone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoids excessive force near critical structures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creates appropriate depth of cavity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoids holes in tegmen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Selects appropriate burr	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoids violation of the sigmoid sinus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correct identification of chorda tympani nerve	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drills in best direction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External auditory canal wall remains up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoids holes in external auditory canal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maintains a complete saucerization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Posterior external auditory canal wall is thinned appropriately	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoids violation of the facial nerve	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoids violation of the horizontal (lateral) semi-circular canal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoids drill contact with ossicles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoids violation of dura	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please provide any comments about the category classification.



