

Evaluation from otosurgeons (n=10)

| | Agree | Neutral | Disagree |
|-------------------------------------------------------------------------------------------------------------------|--------------|----------------|-----------------|
| 1. Anatomical landmarks are recognizable in the middle ear phantom. | 10 | 0 | 0 |
| 2. The movement of ossicles within the phantom correspond to the movement of the ossicles in a real middle ear. | 9 | 0 | 1 |
| 3. The drilling sensation is comparable to a temporal bone. | 10 | 0 | 0 |
| 4. The scooping sensation is comparable to a temporal bone. | 7 | 2 | 1 |
| 5. The 3D-printed PORP corresponds in structure/shape to a titanium PORP. | 10 | 0 | 0 |
| 6. The maneuverability of the 3D printed PORP is comparable to a titanium PORP. | 8 | 1 | 1 |
| 7. Inserting a 3D printed PORP into a phantom can be compared to inserting a titanium PORP into the middle ear. | 8 | 1 | 1 |
| 8. This type of simulation allows me to improve my surgical skills. | 10 | 0 | 0 |
| 9. In the future, I would like to use the phantom and 3D printed middle ear prostheses for my own training. | 10 | 0 | 0 |
| 10. This type of simulation is suitable for the training of specialists in otologic surgery. | 10 | 0 | 0 |
| 11. This type of simulation is suitable for otologic surgery for residents (e.g., temporal bone drilling course). | 10 | 0 | 0 |
| 12. In the future, personalized phantoms corresponding to patients will be required in the planning of surgeries. | 8 | 1 | 1 |
| 13. In the future, there will be a need for personalized 3D printed PORPs in patient surgeries. | 5 | 4 | 1 |
| 14. In the future, there will be a need for personalized 3D printed TORPs in patient surgeries. | 5 | 4 | 1 |

Evaluation from ORL-HNS residents (n=10)

| | Agree | Neutral | Disagree |
|--------------------------------------------------------------------------------------------------------------------------------|--------------|----------------|-----------------|
| 1. The ossicles (malleus and stapes) can be clearly found in the phantom. | 10 | 0 | 0 |
| 2. The movement of the phantom's ossicles corresponds to the movement of real ossicles. | 6 | 0 | 4 |
| 3. The drilling sensation is comparable to a temporal bone. | 5 | 1 | 4 |
| 4. The scooping sensation is comparable to a temporal bone. | 4 | 0 | 6 |
| 5. I managed to set the PORP prosthesis into the phantom. | 9 | 0 | 1 |
| 6. Practicing with a 3D printed phantom allows me to improve my surgical skills just as good as practicing with cadaver bones. | 7 | 0 | 3 |
| 7. In the future, I would rather practice with 3D printed phantoms than cadaver bones. | 3 | 2 | 5 |
| 8. In the future, I would like to use 3D printed phantoms and middle ear prostheses for my own training. | 9 | 0 | 1 |