Claims

1. A system for repairing a tympanic membrane through a natural orifice of an ear, comprising:

    a device for repair of a region within an ear via a natural orifice, comprising:

        a first port for visibly identifying the region to be sealed, the region being inside the ear; and

        a second port through which a seal can be introduced into the ear through the device;

    a seal for covering the region being repaired; and

    an introducer for introducing the seal through the device, into the ear via the natural orifice, so that the introducer extends at least into a perforation in the tympanic membrane.

2. The system of claim 1, further comprising anaesthesia for topically anaesthetising an internal region of the ear.
3. The system of claims 1 or 2, further comprising a means for performing debridement of the tympanic membrane around the perforation.
4. The system of any one of claims 1 to 3, further comprising a guidewire, wherein the introducer is configured to be inserted to a position proximal on the tympanic membrane, the guidewire is configured to be advanced through the perforation, and the introducer is advanced along the guidewire and into the perforation.
5. The system of claim 4, wherein the guidewire is configured to be retracted after advancing the introducer along the guidewire and into the perforation.
6. The system of any one of claims 1 to 5, wherein in use the graft from the introducer is delivered using a pusher to push the seal into the introducer.
7. The system of claim 6, wherein in use the seal is drawn back against a distal side of the tympanic membrane.
8. The system of claim 7, wherein the seal comprises an adhesive to adhere the seal to the distal side.
9. The system of any one of claims 1 to 8, wherein the seal further comprises a first body and a second body, the first body and the second body being connected, wherein the seal is a graft, and wherein the seal is adapted to be delivered from the introducer by means of:

    advancement of the graft, causing the first body to be positioned distally of the tympanic membrane;

    withdrawal of the introducer, to a location proximal of the tympanic membrane; and

advancement of the graft, causing at least a part of the tympanic membrane to fall between the first body and the second body.

10. The system of claim 9, wherein the first body and the second body of the seal form a double umbrella shape.
11. The system of any one of claims 1 to 10, wherein in use the introducer is withdrawn after the seal is attached.
12. The system of any one of claims 1 to 11, wherein in use the device is configured to be introduced at least partially into the ear, and the introducer is configured to be inserted into the ear via the natural orifice by inserting the introducer into the second port of the device.
13. The system of claim 12, wherein the body tapers distally.
14. The system of claim 12 or 13, wherein the device is arranged for aligning the second port with a perforation in a tympanic membrane so that insertion of the introducer causes the introducer to extend through the perforation.
15. The system of claim 7 or 8, further comprising a suture for attaching the tympanic membrane to the seal by attaching the suture to the seal and pulling the suture to bring the seal against the distal side after the seal has been delivered to the distal side of the tympanic membrane.
16. The system of any one of claims 1 to 15, wherein the seal is configured to expand by:

    delivering fluid to the seal through the device to expand the seal to a formed shape; and

    warming the seal to a temperature sufficient for the seal to expand to the formed shape.
17. The system of any one of claims 1 to 16, wherein the device is a speculum.
18. The system of any one of claims 1 to 17, characterised in that the first port comprises a magnifying member for magnifying the region inside the ear.
19. The system in any one of claims 1 to 18, characterised in that the first port is arranged to maintain visibility of the region during delivery of the seal through the second port.
20. The system of any one of claims 1 to 19, characterised in that the second port comprises an engagement member for engaging a delivery device, the delivery device being for delivering the seal to the region.
21. The system of claim 20, characterised in that the engagement member is configured to engage the delivery device to fix a longitudinal position of the delivery device relative to the second port.
22. The system of claim 20 or 21, characterised in that, the engagement member comprises a twist lock feature.

23. The system of any one of claims 1 to 16, wherein the device comprises three or more ports, the two of more ports including the first port and the second port.
24. The system of claim 23, characterised in that, at least one of the three or more ports is configured to receive:

    a surgical device for performing a surgical operation on tissue at the region inside the ear;

    a fluid delivery device for delivering fluid to the seal when the seal has been introduced into the ear; and

    the fluid, and

    the at least one of said three or more ports is configured to deliver the fluid to the seal when the seal has been introduced into the ear.