Conductive & Mixed Hearing Loss: BONEBRIDGE Active Bone Conduction Implant

As you know, there’s no one-size-fits-all solution for hearing loss. That’s why we offer the widest range of implantable and non-implantable hearing loss solutions. With advanced solutions for so many types of hearing loss, we’re able to help restore hearing to as many people as possible.

For individuals with conductive or mixed hearing loss, a bone conduction system can be a very effective treatment option. Bone conduction bypasses the outer and middle ear to send sound vibrations directly to the cochlea. This offers a natural sound quality for recipients.

For temporary or chronic conductive hearing loss, our new ADHEAR system is an ideal treatment option. ADHEAR is a non-surgical solution, so your patients can immediately test the benefit. ADHEAR is a passive bone conduction system that offers great performance and superior comfort.

However, for patients with mixed hearing loss—a combination of sensorineural hearing loss and conductive hearing loss—more amplification is generally needed.

Today, we’ll introduce you to BONEBRIDGE, our active bone conduction implant.

Active Bone Conduction

For patients who need greater amplification, our BONEBRIDGE Active Bone Conduction Implant System is an excellent solution. BONEBRIDGE is an effective treatment option for conductive or mixed hearing loss, as well as single-sided deafness.

BONEBRIDGE delivers vibrations through the bone directly to the cochlea, making it an active bone conduction implant. This direct mechanical connection offers many benefits.
- Higher output for mixed hearing loss and single-sided deafness
- Stable output, independent of skin thickness or hair growth
- No skin pressure necessary for stimulation

BONEBRIDGE is a two-part system:

- An internal active bone conduction implant
- An external audio processor

The BONEBRIDGE BCI 601 Active Bone Conduction Implant: The coil receives electronic signals from the audio processor and converts them into mechanical sound vibrations. These vibrations are directly conducted through the bone to the cochlea for a natural sound quality.

- Active bone conduction
- Transcutaneous signal transmission
- Intact skin
- Straightforward surgical procedure
- MR Conditional up to 1.5 Tesla
The **SAMBA BB Audio Processor**: This compact single-unit audio processor SAMBA is gently held in place over the implant for all-day comfort. SAMBA features adaptive directional microphones and speech tracking for exceptional hearing performance.

- Incredibly small and light
- 21 stylish design covers
- Wireless connectivity options
- Intelligent Sound Adapter
- Adaptive directional microphones
- Speech tracking
- 5 fitting programs

**Transcutaneous Solution**

Unlike any other active bone conduction system on the market, the BONEBRIDGE stimulator is implanted completely under the skin. This makes BONEBRIDGE the only active bone conduction implant that allows recipients to have completely intact skin.

With BONEBRIDGE, the low-profile SAMBA Audio Processor detects sounds and sends the signals to the implant coil. The implant then creates mechanical sound vibrations with the BC-FMT. This
transcutaneous signal transmission works in a similar manner to the coils in modern cochlear implant technology.

Why is this so important for your patients?

Other active bone conduction systems, such as the Baha Connect or Ponto, use a mechanical audio processor and a percutaneous bone-anchored screw. This abutment juts out from the head and requires permanent continuous wound care.

Complications with this “through-the-skin” external approach are common: irritation, infection, and other skin issues are a frequent problem. There’s also the risk of a Baha osseointegration failure, which would require revision surgery or complete removal.

For many recipients, there’s also a significant aesthetic factor to consider. Not only is there a permanent lug abutment, but the audio processor for a Baha is distinctly raised off the head. This is not an issue with Samba, as the low-profile design easily disappears under hair.

**Next Steps with Bonebridge**

So, as you can see, Bonebridge combines the best of both worlds in bone conduction:

- Active bone conduction for powerful amplification
- Completely under-the-skin implant

Ready to find out how you can start using Bonebridge in your clinic? Contact your local MED-EL representative.

Want to see the straightforward procedure for implanting Bonebridge? Check out this Bonebridge surgical case study with HD video from Prof. Dr. Assen Koitschev.

Have a question about Bonebridge for your patients? Contact us with our simple contact form and we’ll have our Bonebridge experts answer.

Looking for more informative articles on hearing implants? Don’t forget to subscribe!
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