

## Guided Bone Regeneration (GBR)

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Guided bone regeneration is a predictable procedure which is used to increase the amount of bone volume. In dentistry it is often used with dental implant treatment. It is not really bone grafting as your own bone is not being moved from one site to another.

### The principles of GBR

- If a space can be made directly next to the bone surface in the absence of pressure, new bone will grow on the surface of existing bone and into the space created.
- To create the space a membrane is required, which keeps out the body's cells that would prevent the formation of new bone. The membrane resorbs away over 3 months.
- As soon as the membrane gets wet, it becomes floppy and sinks down onto the bone surface. A 'scaffold' material is therefore required to keep the membrane where it needs to be and in addition allows the growth of new bone through it.
- The membrane usually used by Paul is made of pig ligament and the scaffold material is usually the mineral component of cow bone.
- The augmented bone will have a greater volume than before the procedure but you will have the same amount of gum to cover a larger region. To do this the underside of the gum needs to be released to make it more flexible. It can then stretch without causing tension and pressure, stitches are then very carefully placed to create a good seal.

Some frequently asked questions:

### Is this treatment successful?

Guided bone regeneration is a predictable procedure which Paul uses a great deal. It is important that no pressure is put on the area after surgery so that the region has time to heal and regenerate, usually over 3 months. This means the gum needs to be carefully and appropriately stitched back after the procedure and the wound is kept very clean especially while the gum wound edges heal over the first 3 weeks.

### What are the main side effects?

Bleeding usually occurs when releasing the underside of the gum. This usually results in bruising and swelling after the procedure. Post operative pain and swelling generally lasts for up to a week after the procedure. Bruising can last for up to 2 weeks, or a little more if you take medicine to thin your blood.

The main complication after guided bone regeneration is wound break-down which results in the loss of a really effective seal. If this occurs please let Paul know. The membrane is

more likely to resorb away over a quicker period of time. The GBR may still be successful. It depends how much extra bone volume was being created.

The bleeding is managed during the treatment and you will not be discharged from our care until any bleeding has stopped.

**Do implants have good outcomes in these bone grafted sites?**

Yes, the implants that Paul uses integrate very well with GBR augmented sites.

**Can this treatment be done in the dental chair?**

Yes, we routinely carry out this treatment under local anaesthetic, but it is more of a personal preference for each person. You can be sedated in the practice if you prefer. If you are a little more medically unwell for sedation in the practice Paul can treat you under sedation at the Duchy Hospital. If you prefer to have a general anaesthetic Paul can treat you at the Duchy Hospital for this too.

**What do I need to do to look after the wound after treatment?**

- You must not smoke for at least 2 weeks before treatment and 2 months after, it is much better for the final outcome and long term success to stop smoking entirely
- Please continue to take your antibiotics if you were given some
- Please use the chlorhexidine mouthwash for two weeks, carefully following the written instructions that we give you