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## Polytetrafluoroethylene implants

Polytetrafluoroethylene (PTFE) and expanded polytetrafluoroethylene (ePTFE) [implants](#) are made of a carbon and fluorine based synthetic polymer that is biologically inert and non-biodegradable in the body.

For over 20 years PTFE has been used as an implantable material for various conditions including vocal cord defects, arterial grafts, orthopaedic joint implants, and facial plastic surgery. More recently, advances in its manufacture have seen an increase in use of ePTFE in facial augmentation, either for reconstructive or cosmetic purposes. ePTFE is more commonly known by the brand names Gore-Tex® and SoftForm®.

### What are PTFE and ePTFE?

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PTFE can be manufactured into many forms. Teflon® is a type of PTFE which comes in a paste and was once commonly used to correct vocal cord defects. Other forms of PTFE include strands, sheets and tubes.

ePTFE is a woven form of PTFE that creates a mesh-like structure. It is flexible, soft and strong. ePTFE implants are porous so they allow the body's tissue to network and grow into it. However, even though the implant is permanent, it can be removed if necessary.

Gore-Tex® and SoftForm® are U.S. Food and Drug Administration (FDA) approved ePTFE implants for facial augmentation. Gore-Tex S.A.M. (subcutaneous augmentation material) is a new solid Gore-Tex implant that is available as solid tubes, preformed shapes and patches. It is also possible to carve the material into customised shapes to improve the outcome of nasal and chin reconstructions or cosmetic augmentations.

PTFE and ePTFE implants are not as hard as silicone implants.

### Where can PTFE and ePTFE be used?

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Facial augmentation with PTFE or ePTFE has been used for the following corrections:

- Cheek
- Chin
- Lips
- Nasolabial furrows (deep smile lines)
- Other deep creases such as glabellar creases (frown lines)

### Am I suitable for PTFE and ePTFE implants?

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Most people tolerate PTFE and ePTFE implants very well. Both are non-toxic polymers that the body does not recognize so "rejection" is very rare. Currently there are no confirmed cases of allergic reaction to PTFE and ePTFE.

### How are PTFE and ePTFE implants inserted?

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The procedure is carried out at your doctor's rooms. The length of time will depend on what corrections are being made but usually take up to about one hour.

#### Procedure for PTFE and ePTFE implantation

1. Implantation site is prepared with an antiseptic solution.
2. Local anaesthetic is used to numb the site.
3. Small incision is made at the implantation site.
4. Tissue from the area is gently lifted to create a small tunnel or pocket for the implant.
5. Implant is inserted and trimmed if necessary to fit the requirements of the correction.
6. Implant is secured in place by suturing the incision(s).
7. Sutures removed after 5–7 days.

## How long do PTFE and ePTFE implants last?

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PTFE and ePTFE implants are permanent. However, they can be removed if infection occurs or if the augmentation is no longer wanted.

## Are there any side effects from PTFE and ePTFE implants?

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Implants are usually well tolerated. You can expect some discomfort directly after the implantation. There may be some swelling, aching, and numbness but these usually resolve after a week or so.

The following complication may rarely occur:

- Infection of the implant site
- Extrusion (part of the implant comes through the skin)
- Induration (hardening of the area operated on)
- Seroma (dense pocket of fluid below the skin)
- Inadequate healing
- Overcorrection or undercorrection

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#### Other websites:

emedicine, the online textbook

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