

As an intrauterine device, the repository can be shaped as a conventional insert IUD, for its mechanical action, and additionally a steroid is slowly released into an effective location, so that the steroid dosage requirements are minimal. The IUD dissolves and becomes inactive, so that removal is not necessary, and the user regains fertility. Reimplantation of an additional device provides longer term protection where desired.

The degree of polymerization and the hydrolytic effects of storage control the release rate, so that a desired release life can be incorporated into the repository.

Solid PGA has such tremendous strength that a surgical needle can be formed on the end of a PGA suture by either fusing the PGA of the suture, or molding additional PGA onto the suture end, the needle being bent and pointed as may be surgically preferred for a specific surgical procedure.

Becoming of increasing interest and importance is the implantation of cosmetic devices. For example, some women, due to partial surgical removal of breast tissue because of malignancies or traumatic injuries, are left with smaller breasts than are considered desirable.

A non-migrating prosthetic implantation has been used which consists of a plastic sponge or a plastic bag partially filled with a liquid having a viscosity adjusted to simulate that of natural tissue. The bag is implanted through a slit under the breast, to raise the mammary tissue away from the underlying chest wall which permits surgical reconstruction which has a very natural appearance and resilience. See U.S. Pat. No. 3,559,214 for surgical details.

It is found that if the implant to be used is constructed from a physiologically inert material such as polypropylene or a silicone film, the implant can be formed with a surface roughness in which, through loops, or fusion of filaments of polypropylene or other material there is formed an implant to which the non-absorbable filament are attached. If polyglycolic acid as a bi-component material is stitched, woven, felted or otherwise formed into such appendant structures, the element may be readily implaced and the polyglycolic acid portions are dissolved out with naturally occurring tissue replacing the polyglycolic acid and thus becoming intermeshed with the elements attached to the prosthetic implant which interlocks the bag in location in the body tissues, primarily the chest wall, and, hence, the implanted prosthetic device is firmly locked into the tissues and protected from accidental displacement.

In one embodiment, the implanted prosthetic device is an implantable bag containing viscous liquid therein, which may be a single cell or a sub-divided cell, with a puncturable area in a selected location so that after implantation, a hypodermic needle may be used to puncture through the skin and intervening tissues, the puncturable area and into the main volume of the prosthetic device which permits hypodermic removal or

addition of additional liquid so that with a minimum inconvenience, time and expense, the enhancing volume may be modified with changing fashions or the desires of the user.

A similarly constructed element using the same co-joint bi-component displacing technique is available to fill out other areas in which external tissue contours are to be changed. For example, an individual may have been involved in an automobile accident or the victim of a tumor and with the removal of certain tissues, a disfiguring surface configuration remains. By filling it with a prosthetic element of suitable size and shape, the surface configuration can be reconstructed to the great psychological benefit of the subject.

Similar, but solid, devices may be implanted in the nose, chin or ears to modify, restore or correct the surface configuration of the subject. In some instances, it is found that the psychological benefit to the subject far overshadows any surgical risks, costs or inconveniences resulting from the operative technique.

A bi-component system can be used to aid in retaining implanted devices such as internal pacemakers or hearing aids. See U.S. Pat. No. 3,557,775, supra, for details of the surgical aspects.

We claim

1. A controlled release medicament device consisting of at least one filament of polyglycolic acid having incorporated therein a small but effective amount of an antibiotic.

2. A medicament repository consisting of a surgical element in the form of tubes, sheets, sponges, gauzes or prosthetic devices of polyglycolic acid having incorporated therein an effective amount of a medicament.

3. The repository of claim 2 which is functionally effective as a tissue retaining clip or staple, as well as having a medicament release function.

4. In a surgical needle and suture combination the improvement comprising:

a suture consisting of at least one filament of stretched and oriented normally solid polyglycolic acid,

the said surgical needle and suture being sterile; the said suture

having good knotability, good knot strength, good handleability, ready colorability, and a total denier of from 1 to 4,000,

retaining a high proportion of its original strength for at least 3 days when embedded in living muscular tissue,

being substantially absorbed in 90 days when embedded in living muscular tissue,

and being substantially free from contaminants not absorbable by living muscular tissue,

and having incorporated therein a small but effective quantity of an antibiotic, antiseptic, or anesthetic,

5. The suture of claim 4 having incorporated therein an antibiotic.

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