A concept for the manufacture and sale of products for the technical optimisation of medical processes, devised by Thede Schnepel, Tel.: +49 4521/798097 Mobile: +49 171 521 9892
“After many hundreds of years, the time has now come to modernize the closing of wounds after surgery or accidental injuries.

The “MediZip” GmbH (private limited company) was founded using the same designation for both the company and the product. The basic idea for the MediZip originates from Prof. Hans-Jürgen Kaeßmann who, as a long-serving accident surgeon at the University of Göttingen, was searching for an innovative method to close wounds. This idea has been developed technically by Thede Schnepel (managing director and patent holder) to a point at which it is ready to be launched onto the market.

Doctoral thesis on the product by Hans Uwe Volkers, UBBO-Emmius Klinik Norden, Oster Str. 110, 26506 Norden Surgery Department, Tel: 04931 181-0

Description of the business idea and the product

The MediZip is an atraumatic wound closure method which was conceived by Prof. Dr. Kaeßmann. Suture channels and staple perforations can be dispensed with when the MediZip is used in surgical procedures. The ensuing benefits are described further down.

The aim of the MediZip is to create a wound closure application which is available in any place, at any time, which closes wounds effectively, and can simultaneously be used as a wound dressing. Thus, in addition to the customary field of application in the operating theatre, the MediZip is a fast wound treatment method which is suitable for use in outpatient care, for disaster and accident response, armed forces missions, police operations and for aid organisations such as the German Technical Relief Service (THW), the Red Cross or any further areas requiring surgical wound treatment.

The MediZip is available in 3 lengths:

- 12 cm
- 18 cm and
- 24 cm e.g. for hip operations

These standard lengths can be adapted to any size, on request, in order to meet individual requirements. The medi-Zip can also be shortened to any length with an ordinary pair of scissors.
The product consists of materials which are already well established on the market.

The innovation of the MediZip, vis-à-vis the previous model, lies in its technical and material improvements, creating an optimal fit of the closure system to the wound. Dependent on the length of the healing process, the MediZip wound closure application can be pulled off of the wound in the same manner as an adhesive plaster.

The current modern version of the MediZip is displaying many advantages over the customary wound treatment method using methods like for instance needle and thread. These include time savings, avoidance of wound infections (no suture channels), a reduction in scar formation and much more. The production is carried out from start to finish by companies with sound medical expertise.

Advantages of the Medi-Zip/Wound Closer
(as summarised by Prof. Dr. H. J. Kaeßmann)

1) Reduction in the length of operations and time spent under anaesthesia. No manual assistance or special instruments required. In the case of 6 operations per day, the implementation of the MediZip saves approx. 60 minutes of operation time.
2) Significantly reduced risk of infection due to the elimination of retrograde infection routes e.g. suture channels.
3) It is possible to dispense with local or nerve block anaesthesia in most cases.
4) Subcutaneous stitches (stitches below skin level) only indicated for deeper wounds.
5) Use of Redon vacuum drainage possible, if the drain outlet is at a distance to the wound.
6) No mechanical irritation in the wound opening. Complete quiescence achieved in the wound due to the splinting effect of the spiral coil of the zip which lies above the wound edges.
7) Consequently, hardly any scab formation. Thus far no hypertrophic or keloid scars (enlarged due to cell growth) observed. Hence, scar formation with impeccable cosmetic results.
8) Reduced wound pain due to mechanical quiescence in the wound opening, leading to possible mobilisation of the patient at an early stage, or respectively the ability to reuse arms and legs (early discharge of patient/shortened time in prone position).
9) The new version of the MediZip (2017) can also be used simultaneously as a reliable wound dressing, as there are strips of gauze located under the zip.
10) Painless removal of the MediZip from the skin wound after 7 – 11 days, without the necessity for special instruments. Intermittent opening of the wound closure application is possible in order to examine the progress of the wound healing process, however not indicated prior to the fifth postoperative day.
11) Elimination of accidental injury to operating personnel, due to needle pricking, and the associated risk of transmission of infectious diseases (e.g. HIV, hepatitis, etc.). Similarly, damage to operating gloves.
12) Short learning phase for new users - implementation possible by surgical support staff (Red Cross, technical relief organisations such as the German THW, armed forces etc.).
13) Optimal “automatic” wound edge adaptation without traumatisation (injury), which is, for example, unavoidable with adaptation by assistants using forceps. This leads to outstanding cosmetic outcomes of wound treatment and impeccable scar formation.

14) The MediZip can also be used for the closure of curved wounds, if a scissor cut is made in the middle of the convex side of the product, reaching up to the zip spiral cord and then a small wedge is removed on the concave side with a snip of the scissors.

15) As this is a disposable product, the time required for the cleaning and re-sterilisation of the customary instruments is dispensed with.

The surgical wound zip, MediZip, is produced and sterile-packed in 3 different standard lengths: (small= 12 cm, large= 18 and 24 cm). Any shorter length which may be required can thus be obtained by trimming (adaptation of the MediZip to the length of the wound which is to be closed).

The manufacture of the Medi-Zip in 3 standard lengths saves storage space, which makes it additionally interesting for global applications (disaster response, armed forces missions, relief organisations etc.).

“I regard this innovative procedure as a contribution to the currently common approach of minimally invasive but nevertheless still traumatising surgery. The ancient principle “primum nil nocere” = “first, do no harm” is, therefore, respected. It is illogical to proceed subcutaneously in the large body cavities as atraumatically as possible and yet continue to traumatisethe damaged body shell on closure. Since, on critical reflection, sutures and staples in a wound mean “trauma on trauma”. The MediZip is not a cure, however it is a suitable aid for the rapid and atraumatic closure of a wound. The healing power lies in the tissue cells and the blood.”

signed by Prof. Dr. H.-J. Kaeßmann
(specialist surgery consultant/accident surgery)

Target Group

One of the main target groups, at present, is (accident) surgery and outpatient wound treatment (general practitioners, accident specialists and accident insurance consultants).

Plastic and aesthetic surgery are perceived to be further sales markets, as the MediZip offers extreme advantages in this field.

The MediZip can withstand extreme temperatures from up to plus 80° C and minus 20 °C and is, therefore, suitable as a rapid, minimally invasive wound closure procedure in disaster areas, for relief organisations, the armed forces, the German technical relief organisation THW etc. A further bonus, especially in relation to the above fields, is the space-saving aspect with regard to storage and stockpiling.
The implementation of the Medi-Zip in the field of veterinary medicine is equally significant.

The MediZip is packed with 10 units per cardboard. The packaging remains sterile for 3 years.

**Customer Benefits/ Demand**

A postoperative wound treated in the customary manner always displays visible suture channels beside the scar which result from the use of needle and thread. These are eliminated with the use of the MediZip and scar formation is also greatly reduced. It can, therefore, be assumed that a patient - when given the choice – will favour treatment with the MediZip.

In addition – as described in under “Advantages of the MediZip” – the significant risk of illness through infection or “hospital bugs” such as MRSA is eliminated, since these cannot enter the wound through the adhesive strip, as could occur with the use of needles.

A large number of personal interviews have revealed that accidents are predominantly dealt with by a general practitioner in the first case. As the sterilisation of instruments is often not possible at these locations, patients are referred to the nearest hospital, even patients with smaller wounds which require stitches. In many cases, this can be avoided with the use of the MediZip.

**Conclusion**

The benefits of wound treatment with the MediZip are self-evident!

A decisive factor in the calculation of the market relevant savings potential is not just a direct price comparison with the costs of customary wound treatment methods, but much more, a consideration of the numerous plus points which make the use of the MediZip a considerably more economical option than previous procedures.

Some examples are cited below:

- Reduction of time required for wound closure procedures, operating time and time under anaesthetic → therefore, additional operating theatre time slots available due to shortened wound closure times
- Simultaneous use of the MediZip as a wound closure and wound covering method
- Intermittent opening of the MediZip possible to monitor the healing process
- Stitch removal is no longer necessary, pain-free removal of the MediZip from the skin wound without special instruments (also independently by the patient herself/himself)
- Minimum posttraumatic infection and allergies due to avoidance of suture channels or the use of materials which are foreign to the body
• High level of savings on disinfection and sterilisation measures and also savings on personnel
• Elimination of danger of injury to the doctor resulting from the use of customary materials – in particular needles
• Optimal wound edge adaptation without further traumatisation of the wound through suture material and suture channels → consequently shorter postoperative treatment lengths
• No mechanical irritation in the wound opening from materials foreign to the body. Therefore, hardly any scab formation, hypertrophic or keloid scars → consequently impeccable cosmetic results
• Promotion of the body’s own biological healing process, as the closure system of the MediZip is poised above the wound and does not cause any irritation to the healing process.

The MediZip, as an innovative wound closure method and provides significant benefits for both the patient and the user. Its cost-saving potential in the field of modern wound management makes the economical aspect of decisive importance for its use in the health service sector. It is also expected that the product will find its way in the first aid kit of every vehicle.

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