

the hollow cones, there are twice as many rounded-shaped beads to cone-shaped beads (a ratio of 2:1), the beads are situated between two knots, the suture is 30cm long and has needles firmly attached to both ends. The specification acknowledges that PLA is well-known in the art as a bioresorbable material that can be used to promote collagen production.

- 5 The claimant refers to the final paragraph of page 1 of the specification which appears to suggest that the suture design is intended to augment the process of collagen formation (by “the addition of “beads” to the cones”) and reduce tissue trauma caused by using cone-shaped beads alone. The claimant argues that the patent does not make it plausible that these effects are achieved by the suture of claim 1, the suggestion being that the shape, size, number and ratio of beads deployed are not the result of any inventive effort with a particular end-goal in sight but are merely arbitrary choices that a person skilled in the art would make. The claimant goes further by saying that the skilled person would consider it implausible that the shape of bead could influence the amount of collagen generation or provide any meaningful reduction in tissue trauma or irritation.
- 6 In its discussion of the prior art the claimant refers to eleven documents (D1-D11) which pre-date the filing of the patent that between them describe a variety of suture assembly configurations for use in cosmetic surgery. D1 and D5 are related patent applications that disclose a suture arrangement comprising cone-shaped elements, rounded protrusions and knots along the length of suture filament, where the suture, beads and protrusions are made from biodegradable material such as PLA, and the different shaped beads/protrusions are arranged alternately along the length of the suture. The protrusions/knots are described as being larger than the hollow interior at the narrower end of the cone-shaped elements in order to restrict movement of the element along the length of the suture filament. A further embodiment is described where the elements are securely fixed to the filament structure, and it is also said that the elements can be any shape suitable for sub-cutaneous tissue engagement when *in situ*.
- 7 The claimant identifies two differences between claim 1 of the patent and the suture arrangement in D1/D5 where the protrusions are generally spherical (figure 1), these differences being, i) that cone-shaped and rounded-shaped beads are present between two knots and ii) that the suture contains two thirds rounded-shaped beads to one third cone-shaped beads. The claimant argues that since both the shape of the beads and the relative proportions are completely arbitrary, it must be regarded as obvious for the skilled person to arrive at the claimed arbitrary ratio of two thirds rounded beads and one third cone-shaped beads. The claimant argues also that the skilled person would automatically arrive at a suture where the cone-shaped beads and rounded-shaped beads are situated between two knots while using the suture of D1 as a part of a procedure to lift facial tissue: the claimant says that it is usual in the art to secure each end of a suture with a knot after implantation. In addition, document D1 itself presents the rounded-shaped beads and knots as being equivalent securing means (except in the case where the filament is a polymeric monofilament) and therefore both are compatible with the suture of D1.
- 8 The claimant says that the skilled person would have regularly used anchoring sutures implanted under the skin to lift certain areas of tissue. This person would know that this is achieved by the use of anchoring elements which embed themselves in the tissue and allow the tissue to be moved and held by pulling and securing the suture, and would also know that in order to be able to achieve the goal

of lifting facial tissue, such sutures must have anchoring elements, as without them the suture does not function.

- 9 I am satisfied that the differences between the suture arrangement disclosed in D1 and that set out in claim 1 of the patent are arbitrary variations that would have been obvious to the person skilled in the art at the filing date of the patent. In the absence of any comment to the contrary from the patentee, I find that at least one ground for revocation of the patent has been made out and that this is sufficient for revocation to proceed.

Order

- 10 I order that UK patent GB2540293 be revoked.

H Jones

Deputy Director, acting for the Comptroller