

FORM 2

THE PATENTS ACT, 1970
(39 of 1970)
AND
THE PATENTS RULES, 2003

**COMPLETE
SPECIFICATION**

(See Section 10; rule 13)

TITLE OF THE INVENTION

“SUTURE ANCHORS AND METHODS OF USE”

APPLICANT

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The following specification particularly describes
the invention and the manner in which
it is to be performed

What is claimed is:

1. An anchoring system for securing tissue to bone, comprising an implant comprising a body having a suture eyelet extending transversely therethrough, a suture recess extending along a portion of a length of the body, having a predetermined depth below an outer surface of the body; and a suture
5 pinch ramp disposed at a proximal end of the suture recess, the suture pinch ramp having a depth approximately equal to said predetermined depth at a distal end thereof and sloping outwardly in a proximal direction so that a depth of a proximal end of the suture pinch ramp approaches zero.
2. The anchoring system as recited in Claim 1 wherein the implant further comprises external surface features for securing the implant within surrounding bone.
3. The anchoring system as recited in Claim 2, wherein the external surface features comprise bone barbs.
4. The anchoring system as recited in Claim 3, and further comprising suture barbs disposed on the outer surface of the body at a proximal end thereof, for clamping suture or tissue between the outer surface of the body and adjacent bone.
5. The anchoring system as recited in Claim 1, and further comprising bone displacement tabs disposed on a distal portion of the implant body, for displacing bone distal to suture for allowing optimal suture sliding during initial deployment of the anchor.

6. The anchoring system as recited in Claim 1, and further comprising an inner cavity having an opening at a proximal end of the anchor body, for receiving an insertion device.

7. The anchoring system as recited in Claim 1, and further comprising an insertion member which is engageable with said anchor body to deploy said anchor in bone.

8. The anchoring system as recited in Claim 1, wherein the anchoring body further comprises a suture cleat adjacent to the suture pinch ramp.

9. The anchoring system as recited in Claim 7, wherein said insertion member comprises a proximal handle portion and an insertion tube connected to a distal end of the handle portion.

10. The anchoring system as recited in Claim 9, and further comprising a suture pulley rod extendable from and retractable into a distal end of the insertion tube.

11. The anchoring system as recited in Claim 10, and further comprising a pair of cleat retainers on a distal end of the pulley rod, wherein a gap is disposed between the pair of cleat retainers.

12. The anchoring system as recited in Claim 10, and further comprising a rotatable knob on said handle portion for retracting and extending the pulley rod relative to the insertion tube.

13. The anchoring system as recited in Claim 12, and further comprising a knob release slide disposed on said handle.
14. A method for securing soft tissue to bone, comprising:
driving an implantable anchor having a body distally into a desired bone site, using an insertion device, to a predetermined initial deployment depth;
applying pressure to suture or tissue disposed between the anchor
5 body and adjacent bone, using a recess disposed on an outer surface of the body and a pinch ramp also disposed on the outer surface of the body, proximal to the suture recess;
tensioning free ends of the suture or tissue disposed between the anchor body and adjacent bone to a desired level;
10 withdrawing a pulley rod proximally into an insertion tube comprising a portion of said insertion device;
driving the implantable anchor a further distance distally into the bone site to finally deploy the anchor;
pinching the suture or tissue between barbs on an outer surface of the
15 implant body and adjacent bone and also between cleats on both sides of the anchor body to lock the suture or tissue in place;
withdrawing the pulley rod from the anchor body and releasing the insertion device therefrom; and
trimming the free suture ends to complete the procedure.
15. An anchoring system for securing tissue to bone, comprising an insertion member which is engageable with an anchor body to deploy said anchor body in bone; the insertion member comprising:
a proximal handle portion;

- 5 an insertion tube connected to a distal end of the handle portion; and
 a suture pulley rod extendable from and retractable into a distal end of the
insertion tube.

16. The anchoring system as recited in Claim 15, and further comprising
a pair of cleat retainers on a distal end of the pulley rod, wherein a gap is disposed
between the pair of cleat retainers.

17. The anchoring system as recited in Claim 15, and further comprising
a rotatable knob on said handle portion for retracting and extending the pulley rod
relative to the insertion tube.

18. The anchoring system as recited in Claim 17, and further comprising
a knob release slide disposed on said handle.

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