CLAIMS

We claim:

1. An implantable mesh for use in reconstructing tissue, the implantable mesh comprising:

a mesh body having a surrounding edge;

one or more mesh extensions extending from the surrounding edge of the mesh body, each mesh extension being of a mesh construction and having a first end, a second end, and a length therebetween, the first end being integrated into or part of the mesh body;

wherein each of the one or more mesh extensions is to be passed through at least a portion of surrounding tissue multiple times to permit multiple anchor points; and

a fixation device at the second end of each mesh extension.

2. An implantable mesh for use in reconstructing tissue, the implantable mesh comprising:

a mesh body;

one or more mesh extensions extending from the mesh body, each mesh extension being of a mesh construction and having a first end and a second end, wherein the first end of the mesh extension is integrated into or part of the mesh body and wherein each mesh extension is to be woven through surrounding tissue multiple times to permit multiple anchor points with the surrounding tissue upon implantation.

3. The implantable mesh of claim 2, further comprising a fixation device at the second end of each mesh extension.

4. The implantable mesh of claim 2 or 3, wherein the mesh body has a surrounding edge and the mesh extensions extend from the surrounding edge.

5. The implantable mesh of any one of claims 1 or 4, comprising two or more mesh extensions extending from the surrounding edge of the mesh body, and wherein at least two of the mesh extensions extend from the surrounding edge in opposite directions from one another.

6. The implantable mesh of any one of claims 1-5, wherein the mesh body and the mesh extensions are fabricated as a uniform mesh construction.

7. The implantable mesh of any one of claims 1-6, wherein the mesh body is comprised of mesh threads woven or knitted together, and each mesh extension is formed by the mesh threads.

8. The implantable mesh of any one of claims 1-5, wherein each mesh extension is initially separate from the mesh body and is comprised of mesh threads woven or knitted together,

wherein the mesh extensions are integrated into the mesh body by weaving the mesh threads of the mesh extension into the mesh body.

9. The implantable mesh of any one of claims 1-8, wherein the length of the mesh extensions is between 10cm and 90 cm.

10. The implantable mesh of any one of claims 1-9, wherein the length of the mesh extensions is at least 20cm or at least 30cm.

11. The implantable mesh of any one of claims 1-10, wherein at least two mesh extensions are spaced apart from one another by an amount between 1mm and 100cm.

12. The implantable mesh of any one of claims 1-10, wherein at least two mesh extensions are spaced apart from one another by at least 1cm.

13. The implantable mesh of any one of claims 1-12, wherein each mesh extension is 0.2-3 cm wide.

14. The implantable mesh of any one of claims 1-13 that can withstand a tensile stress of at least 16 newtons per centimeter (N/cm) without migrating or dehiscing.

15. The implantable mesh of any one of claims 1 or 3-14, wherein the fixation device is selected from the group consisting of a surgical needle permanently connected to the second end of each mesh extension and a tack.

16. The implantable mesh of any one of claims 1-15, wherein at least one of the mesh body and each mesh extension is comprised of synthetic material.

17. The implantable mesh of any one of claims 1-16, wherein at least one of the mesh body and each mesh extension is comprised of biological material.

18. A method of using the implantable mesh of any one of claims 1-17, the method comprising:

determining size and placement of a tissue defect;

determining availability or proximity of the surrounding tissue to the tissue defect;

positioning of the implantable mesh such that the mesh body extends across the tissue defect to be reconstructed; and

tissue reconstruction by weaving each mesh extension into the surrounding tissue on opposing sides of the tissue defect.

19. The method of claim 18, wherein the step of anchoring each mesh extension to multiple anchor points includes passing the mesh extensions through at least a portion of the surrounding tissue more than one time.

20. The method of claim 19, wherein the step of anchoring each mesh extension to multiple anchor points includes passing the mesh extensions through at least a portion of the surrounding tissue at least three times to create at least three anchor points.

21. The method of any one of claims 18-20, wherein the tissue defect is a hernia.

22. The method of any one of claims 18-20, wherein the tissue defect is in breast tissue.

23. The method of any one of claims 18-22, further comprising fixing the mesh extension to a bone.

24. The method of any one of claims 18-23, wherein the implantable mesh can withstand a tensile stress of at least 16 newtons per centimeter (N/cm) without migrating or dehiscing.

25. The method of any one of claims 18-20, wherein the tissue defect is in a tendon.

26. The implantable mesh of any one of claims 2-19 and 21-25, wherein each mesh extension is to be woven through surrounding tissue at least two times.

27. The implantable mesh of any one of claims 1-20 and 26, wherein the implantable mesh is for abdominal wall hernia repair.

28. The implantable mesh of any one of claims 1-27, further comprising at least four mesh extensions positioned to form at least two laterally opposing pairs to be woven into abdominal tissue on opposite sides of a hernia being repaired.

29. The implantable mesh of any one of claims 1-28, wherein all of the mesh extensions comprised of mesh extend from one of two opposing edges of the mesh body.

30. The implantable mesh of any one of claims 1-29, further comprising at least six mesh extensions comprised of mesh, wherein all of the mesh extensions are configured in opposing pairs.