WHAT IS CLAIMED IS:

1. A partially braided expandable member for supporting an electrode array, the expandable member being self-expanding between a compressed state and an expanded state, the expandable member comprising:

a proximal end;

a distal end;

a longitudinal axis;

a distal segment comprising a plurality of wires, each wire of the plurality of wires having a bend including a wire segment on each side of the bend,

the bends defining the distal end of the expandable member,

the wire segments braided together from the distal end of the expandable member towards the proximal end of the expandable member,

wherein the distal segment comprises a first portion having a braid property and a second portion having a second braid property different than the first braid property, wherein the first braid property comprises braid angle and the second braid property comprises braid angle, and

wherein the second braid angle is greater than the first braid angle; and

a proximal segment proximal to the distal segment, the proximal segment comprising the plurality of wires,

the plurality of wires extending parallel to the longitudinal axis,

half of the wires of the plurality of wires being truncated distal to the proximal end of the expandable member and an other half of the wires of the plurality of wires defining the proximal end of the expandable member,

the other half of the wires of the plurality of wires bending towards the longitudinal axis to form spokes and bending parallel to the longitudinal axis for attachment to an elongate member,

wherein end portions of the plurality of wires in the proximal segment are positioned in side-by-side pairs parallel to the longitudinal axis,

wherein one end portion of each pair of side-by-side wires is truncated distal to a proximal end of the expandable member,

wherein an other end portion of each pair of side-by-side wires extends radially inwardly to a proximal hub system to form the spokes, and

wherein the spokes are perpendicular to the longitudinal axis.

2. The expandable member of claim 1, wherein the distal segment has a constant diameter.

3. The expandable member of claim 1, wherein the other half of the wires of the plurality of wires extends to a proximal hub system, wherein the proximal hub system comprises:

an outer band;

an inner band radially inward of the outer band; and

an adapter including a first longitudinal segment radially inward of the outer band and a second longitudinal segment radially inward of the inner band, the other end portions of the wires radially inward of the inner band.

4. A partially braided expandable member for supporting an electrode array, the expandable member being self-expanding between a compressed state and an expanded state, the expandable member comprising:

a proximal end;

a distal end;

a longitudinal axis;

a distal segment comprising a plurality of wires, each wire of the plurality of wires having a bend including a wire segment on each side of the bend,

the bends defining the distal end of the expandable member, the wire segments braided together from the distal end of the expandable member towards the proximal end of the expandable member,

wherein the distal segment comprises a first portion having a braid property and a second portion having a second braid property different than the first braid property; and

a proximal segment proximal to the distal segment, the proximal segment comprising the plurality of wires, the plurality of wires extending parallel to the longitudinal axis,

a first quantity of the wires of the plurality of wires being truncated distal to the proximal end of the expandable member and a second quantity of the wires of the plurality of wires defining the proximal end of the expandable member,

the second quantity of the wires of the plurality of wires bending towards the longitudinal axis to form spokes and bending parallel to the longitudinal axis for attachment to an elongate member,

wherein end portions of the plurality of wires in the proximal segment are positioned in side-by-side pairs parallel to the longitudinal axis,

wherein one end portion of each pair of side-by-side wires is truncated distal to a proximal end of the expandable member, wherein an other end portion of each pair of side-by-side wires extends radially inwardly to a proximal hub system to form the spokes, and wherein the spokes are perpendicular to the longitudinal axis.

5. The expandable member of claim 4, wherein the first braid property comprises braid angle and the second braid property comprises braid angle, and wherein the second braid angle is greater than the first braid angle.

6. The expandable member of claim 4, further comprising polymer tubing covering at least a portion of each pair of side-by-side wires.

7. The expandable member of claim 4, wherein the second quantity of the wires of the plurality of wires extends to a proximal hub system, wherein the proximal hub system comprises:

an outer band;

an inner band radially inward of the outer band; and

an adapter including a first longitudinal segment radially inward of the outer band and a second longitudinal segment radially inward of the inner band, the other end portions of the wires radially inward of the inner band.

8. The expandable member of claim 4,

wherein the first braid property comprises braid angle and the second braid property comprises braid angle,

wherein one end portion of each pair of side-by-side wires is truncated distal to a proximal end of the expandable member,

wherein an other end portion of each pair of side-by-side wires extends radially inwardly to a proximal hub system to form the spokes,

wherein the second quantity of the wires of the plurality of wires extends to a proximal hub system, and

further comprising polymer tubing covering at least a portion of each pair of side-by-side wires.

9. A partially intertwined expandable member for supporting an electrode array, the expandable member being self-expanding between a compressed state and an expanded state, the expandable member comprising:

a proximal end;

a distal end;

a longitudinal axis;

a distal segment comprising a plurality of wires, each wire of the plurality of wires having a bend including a wire segment on each side of the bend,

the bends defining the distal end of the expandable member,

the wire segments intertwined together from the distal end of the expandable member towards the proximal end of the expandable member; and

a proximal segment proximal to the distal segment, the proximal segment comprising the plurality of wires,

the plurality of wires extending parallel to the longitudinal axis,

a first portion of the wires of the plurality of wires being truncated distal to the proximal end of the expandable member and a second portion of the wires of the plurality of wires defining the proximal end of the expandable member,

the second portion of the wires of the plurality of wires bending towards the longitudinal axis to form spokes and bending parallel to the longitudinal axis for attachment to an elongate member,

wherein end portions of the plurality of wires in the proximal segment are positioned in side-by-side pairs parallel to the longitudinal axis,

wherein one end portion of each pair of side-by-side wires is truncated distal to a proximal end of the expandable member.

10. The expandable member of claim 9, wherein the distal segment comprises a first segment having a braid property and a second segment having a second braid property different than the first braid property.

11. The expandable member of claim 10, wherein the first braid property comprises braid angle and the second braid property comprises braid angle, and wherein the second braid angle is greater than the first braid angle.

12. The expandable member of claim 9, wherein an other end portion of each pair of side-by-side wires extends radially inwardly to a proximal hub system to form the spokes.

13. The expandable member of claim 12, wherein the spokes are perpendicular to the longitudinal axis.

14. The expandable member of claim 9, further comprising polymer tubing covering at least a portion of each pair of side-by-side wires.

15. The expandable member of claim 9, wherein the second portion of the wires of the plurality of wires extends to a proximal hub system.

16. The expandable member of claim 15, wherein the proximal hub system comprises:

an outer band;

an inner band radially inward of the outer band; and

an adapter including a first longitudinal segment radially inward of the outer band and a second longitudinal segment radially inward of the inner band, the other end portions of the wires radially inward of the inner band.

17. The expandable member of claim 9,

wherein the distal segment comprises a first segment having a braid property and a second segment having a second braid property different than the first braid property,

wherein the first braid property comprises braid angle and the second braid property comprises braid angle,

wherein the second braid angle is greater than the first braid angle,

wherein the second portion of the wires of the plurality of wires extends to a proximal hub system.

18. A partially braided expandable member for supporting an electrode array, the expandable member being self-expanding between a compressed state and an expanded state, the expandable member comprising:

a proximal end;

a distal end;

a longitudinal axis;

a distal segment comprising a plurality of wires, each wire of the plurality of wires having a bend including a wire segment on each side of the bend,

the bends defining the distal end of the expandable member,

the wire segments braided together from the distal end of the expandable member towards the proximal end of the expandable member,

wherein the distal segment comprises a first portion having a braid property and a second portion having a second braid property different than the first braid property; and

a proximal segment proximal to the distal segment, the proximal segment comprising the plurality of wires,

the plurality of wires extending parallel to the longitudinal axis,

a first quantity of the wires of the plurality of wires being truncated distal to the proximal end of the expandable member and a second quantity of the wires of the plurality of wires defining the proximal end of the expandable member,

the second quantity of the wires of the plurality of wires bending towards the longitudinal axis to form spokes and bending parallel to the longitudinal axis for attachment to an elongate member,

wherein end portions of the plurality of wires in the proximal segment are positioned in side-by-side pairs parallel to the longitudinal axis,

wherein the first braid property comprises braid angle and the second braid property comprises braid angle,

wherein one end portion of each pair of side-by-side wires is truncated distal to a proximal end of the expandable member,

wherein an other end portion of each pair of side-by-side wires extends radially inwardly to a proximal hub system to form the spokes,

wherein the second quantity of the wires of the plurality of wires extends to a proximal hub system, and

further comprising polymer tubing covering at least a portion of each pair of side-by-side wires.

19. The expandable member of claim 18, wherein the second braid angle is greater than the first braid angle.

20. The expandable member of claim 18, wherein the proximal hub system comprises:

an outer band;

an inner band radially inward of the outer band; and

an adapter including a first longitudinal segment radially inward of the outer band and a second longitudinal segment radially inward of the inner band, the other end portions of the wires radially inward of the inner band.

21. A partially intertwined expandable member for supporting an electrode array, the expandable member being self-expanding between a compressed state and an expanded state, the expandable member comprising:

a proximal end;

a distal end;

a longitudinal axis;

a distal segment comprising a plurality of wires, each wire of the plurality of wires having a bend including a wire segment on each side of the bend,

the bends defining the distal end of the expandable member,

the wire segments intertwined together from the distal end of the expandable member towards the proximal end of the expandable member; and

a proximal segment proximal to the distal segment, the proximal segment comprising the plurality of wires,

the plurality of wires extending parallel to the longitudinal axis,

a first portion of the wires of the plurality of wires being truncated distal to the proximal end of the expandable member and a second portion of the wires of the plurality of wires defining the proximal end of the expandable member,

the second portion of the wires of the plurality of wires bending towards the longitudinal axis to form spokes and bending parallel to the longitudinal axis for attachment to an elongate member,

wherein the distal segment comprises a first segment having a braid property and a second segment having a second braid property different than the first braid property,

wherein the first braid property comprises braid angle and the second braid property comprises braid angle,

wherein the second braid angle is greater than the first braid angle,

wherein end portions of the plurality of wires in the proximal segment are positioned in side-by-side pairs parallel to the longitudinal axis,

wherein one end portion of each pair of side-by-side wires is truncated distal to a proximal end of the expandable member,

wherein an other end portion of each pair of side-by-side wires extends radially inwardly to a proximal hub system to form the spokes, and

wherein the second portion of the wires of the plurality of wires extends to the proximal hub system.

22. The expandable member of claim 21, wherein the spokes are perpendicular to the longitudinal axis.

23. The expandable member of claim 21, further comprising polymer tubing covering at least a portion of each pair of side-by-side wires.

24. The expandable member of claim 21, wherein the proximal hub system comprises:

an outer band;

an inner band radially inward of the outer band; and

an adapter including a first longitudinal segment radially inward of the outer band and a second longitudinal segment radially inward of the inner band, the other end portions of the wires radially inward of the inner band.