CLAIMS

WHAT IS CLAIMED IS:

1. A catheter comprising:

an elongate body having a proximal segment and a distal segment;

a first lumen defined by the elongate body; and

at least one anterior flexibility region on or in the distal segment of the elongate body, wherein the at least one anterior flexibility region:

extends from an anterior external surface of the elongate body into the first lumen,

extends from the anterior external surface at least partially circumferentially along an exterior sidewall of the elongate body without penetrating the first lumen along the exterior sidewall,

has a cut depth percentage of about 40% to about 50% of an outer diameter of the elongate body, and

has a percent volume of material removed of about 20% to about 40%.

2. The catheter of claim 1, wherein a force to bend the at least one anterior flexibility region is less than the force to bend a portion of the elongate body that does not include the at least one anterior flexibility region.
3. The catheter of claim 1, wherein a force to bend the distal segment anteriorly is less than the force to bend the distal segment posteriorly.
4. The catheter of claim 1, wherein the at least one anterior flexibility region has a cut length percentage of about 10% to about 90%.
5. The catheter of claim 1, wherein the catheter is a urinary catheter comprising:

a retention balloon disposed about at least a portion of the distal segment of the elongate body, and

a second lumen defined by the elongate body and configured to inflate the retention balloon.

6. The catheter of claim 1, wherein a distal tip of the distal segment is tapered such that a ratio of the outer diameter of the elongate body to an outer projected thickness of the distal tip of the distal segment is about 1.0:0.8 to about 1.0:0.2.
7. The catheter of claim 1, wherein the at least one anterior flexibility region comprises a plurality of anterior flexibility regions on or in the distal segment, such that a distal most anterior flexibility region of the plurality of anterior flexibility regions has a second cut depth percentage that is greater than the cut depth percentage of the at least one anterior flexibility region.
8. The catheter of claim 1, further comprising at least one posterior flexibility region on or in the distal segment.
9. The catheter of claim 7, wherein the distal most anterior flexibility region extends from a second region of the anterior external surface of the elongate body, circumferentially about an inner sidewall of the first lumen and into a luminal surface of a posterior sidewall of the elongate body.
10. The catheter of claim 7, wherein the second cut depth percentage of the distal most anterior flexibility region is about 60% to about 95% of the outer diameter of the elongate body.
11. The catheter of claim 8, wherein the at least one posterior flexibility region comprises a groove in a posterior portion of an inner sidewall of the first lumen of the elongate body.
12. The catheter of claim 11, wherein the groove in the posterior portion of the inner sidewall of the first lumen has a posterior cut depth percentage of about 5% to about 20% of a wall thickness of the elongate body.
13. A catheter comprising:

an elongate body having a proximal segment and a distal segment;

a lumen defined by the elongate body; and

at least one anterior flexibility region on or in the distal segment of the elongate body, wherein the at least one anterior flexibility region:

extends through an anterior external sidewall of the elongate body, circumferentially about an inner sidewall of the lumen, and into a luminal surface of a posterior sidewall of the elongate body,

has a cut depth percentage of about 80% to about 95% of an outer diameter of the elongate body, and

has a percent volume of material removed of about 20% to about 40%, wherein the material removed is from the anterior external sidewall, the inner sidewall of the lumen, and the luminal surface of the posterior sidewall.

14. The catheter of claim 13, wherein a distal tip of the distal segment is tapered such that a ratio of the outer diameter of the elongate body to an outer projected thickness of the distal tip of the distal segment is about 1.0:0.8 to about 1.0:0.2.
15. The catheter of claim 13, wherein the at least one anterior flexibility region has a cut length percentage of about 10% to about 90%.
16. A catheter comprising:

an elongate body having a proximal segment and a distal segment, wherein a distal tip of the distal segment is tapered such that a ratio of an outer diameter of the elongate body to an outer projected thickness of the distal tip of the distal segment is about 1.0:0.8 to about 1.0:0.2;

a lumen defined by the elongate body; and

a plurality of anterior flexibility regions on or in the distal segment of the elongate body,

wherein at least one anterior flexibility region of the plurality of anterior flexibility regions:

extends from a first region of an anterior external surface of the elongate body into the lumen,

extends from the first region of the anterior external surface at least partially circumferentially along a first exterior sidewall of the elongate body, and

has a percent volume of material removed of about 20% to about 40%.

17. The catheter of claim 16, wherein a second anterior flexibility region of the plurality of anterior flexibility regions:

extends through a second region of the anterior external surface of the elongate body, circumferentially about an inner sidewall of the lumen, and into a luminal surface of a posterior sidewall of the elongate body,

has a cut depth percentage of about 80% to about 95% of the outer diameter of the elongate body, and

has a second percent volume of material removed of about 20% to about 40%.

18. The catheter of claim 16, further comprising a plurality of posterior flexibility regions on or in the distal segment, wherein each of the plurality of posterior flexibility regions are transversely aligned with a respective anterior flexibility region of the plurality of anterior flexibility regions.

19. The catheter of claim 18, wherein each of the plurality of posterior flexibility regions comprise a posterior groove in an inner sidewall of the lumen and have a cut depth percentage of about 5% to about 20% relative to the outer diameter of the elongate body.