SIZING, SUTURING AND IMPLANTATION RECOMMENDATIONS FOR THE SJM REGENT VALVE

1. SIZING

- Use the St. Jude Medical heart valve sizers to measure the patient's tissue annulus.
  The St. Jude Medical Sizer Set Model 905 contains 6 double-ended sizer handles with standard and flanged sizer rings of the same size on opposing ends.
- Valve size is determined by using the standard valve sizer ring which should pass readily without resistance through the annulus. Select the sizer ring which fits easily into the annulus without distorting or stretching the tissue
- Use the flanged sizer ring to better visualize the placement of the supra-annular sewing cuff. The flange of the sizer should not be passed through the annulus.

2. SUTURING

The Regent valve is easy to implant using the surgeon's preferred suturing technique. Final selection of a suturing technique depends on physician preference and patient needs.

Recommended techniques:
- The *non-everting mattress with subannular pledgets* or the *simple interrupted technique* are well suited for the Regent valve. The advantages of these techniques are twofold:
  - The annular dimensions are optimized by preserving the size of the annulus.
  - The sewing cuff is placed above the annulus while the carbon orifice of the valve seats within the annulus.

Other suitable techniques:
- *Figure of eight*
- *Continuous or running technique*
  Although this technique may be used to implant a Regent valve, it has the disadvantage that if the suture breaks the whole valve may dislocate.

Less suitable techniques:
- *Everting mattress with supra-annular pledgets*
  This technique can be used to implant the Regent valve but has two potential disadvantages:
  - The annulus may be pulled inward, thereby constricting its size.
  - The sewing cuff of the Regent may be pulled down in the annulus, thereby decreasing the effective orifice area compared to a supra-annular placement of the cuff.

Remark
Sutures should be placed in the outer half of the sewing cuff to achieve the following three benefits:
- The cuff is more pliable and better conforms to the annulus, lessening the potential for paravalvular leakage.
- Interference with leaflet motion is reduced.
- Interference with or damage to the rotation mechanism is minimized.

3. IMPLANTATION

The implantation of the Regent valve may be easier when the following recommendations are followed:
- Size annulus after placing sutures
- First tie down the pivot guard sutures, as it may be easier to seat the pivot guards in the annulus *before* tying off the other annular sutures.
- Next tie down the sutures in the lowest scallop of the aortic annulus as this may aid in seating the aortic valve.

If needed, the valve can be rotated *in situ.* For easiest rotation, snap a St. Jude Medical valve holder handle into the holder/rotator and rotate the valve as desired. It is recommended tying and clamping the suture ends prior to rotation. This way, the annulus is stabilized with minimal downward force to the valve.