

# T400-Series Technical Note

## Keys to Stabilizing Flowprobes

Following are several ways to stabilize Probes that can be applied to various applications. All can be applied acutely or chronically.

### PROBE SIZE

Make sure that the size of the Probe is appropriate for the vessel diameter. The vessel should fill 75 -95% of the Probe lumen. If it is an acute application: a closer fit will be more stable because it will use less gel.

### CABLE EXIT

The position of the cable (back, side or lateral) is often determined by the anatomical placement of the Probe and the adjacent tissues. Back (perpendicular to the vessel) is more convenient if the approach is deep. Side (parallel to the vessel) is useful if there is access to lay the Probe and cable flat along side the vessel. A suture may be applied around the cable to keep the Probe in place. There are also suture holes in opposite sides of the reflector and slide cover.

### SILICONE WRAP

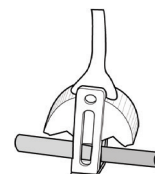
This goes around the Probe and vessel like an envelope and extends the length of the Probe along the vessel to provide more stability. The wrap gives additional places where sutures may be placed for stability. The wrap also helps to keep gel in place. It is typically used on side exit Probes, but may be applied other Probes too. See Silicone Wrap (RL-2-tn) and Rabbit Renal Artery Surgical Protocol (RL-13-sp).

### SILICONE FLANGE

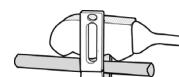
This is a flange around the perimeter of the Probe. It is typically used in LAD coronary artery applications to keep a Probe around a deep vessel from pulling the vessel out of its natural position. Suture holes are provided to sew the Probe down on the tissue for stability. It is also applied in uterine artery applications and has been successful in stabilizing a Flowprobe on the thoracic duct. See Dog LAD Surgical Protocol (RL-1-sp).

### ACOUSTIC COUPLING GEL

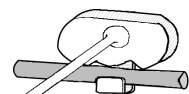
If gel melts out during a long experiment and is the cause of the instability of the signal, the customer should try a closer fitting Probe. The modifications above help to keep the gel in place, but it is also possible to use an angio catheter to deposit more gel in place when it does melt out - or consider using Nalco 1181 super-absorbant powder to make the gel more viscous (this is only available for terminal experiments). See Acoustic Couplants (RL-9-tn).



Back cable exit perpendicular to vessel.



Side cable exit parallel to vessel.



Lateral cable exit for thoracotomy.



Silicone Wrap



Front view of Silicone Flange on Probe



Back view of Silicone Flange on Probe