

# IV. On-Pump Graft Patency Assessment



## IV-A. On-Pump Graft Patency Assessment Protocol

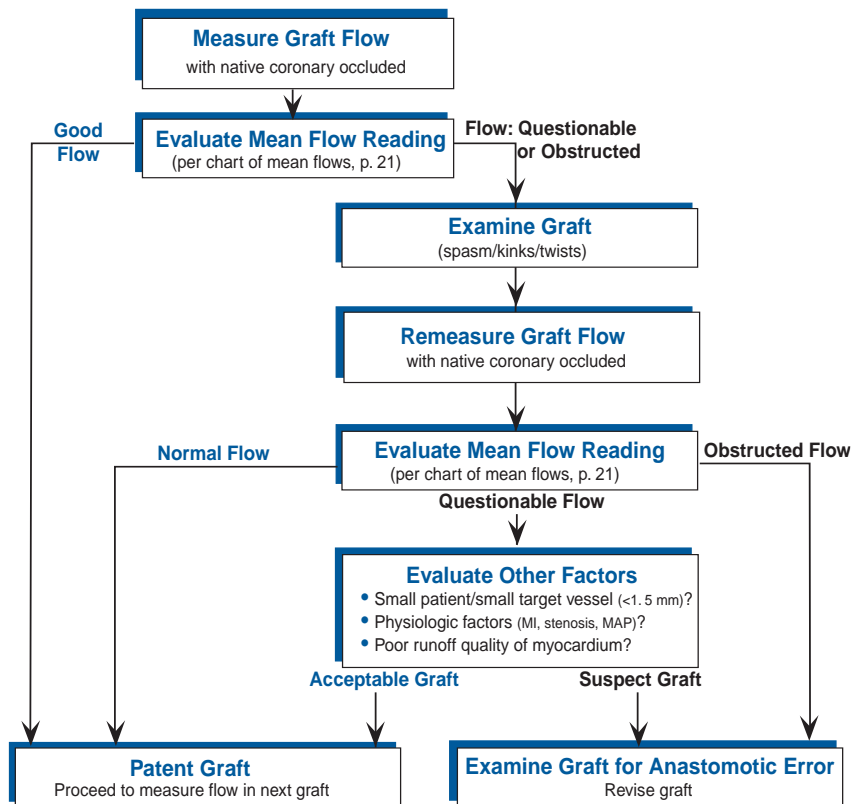


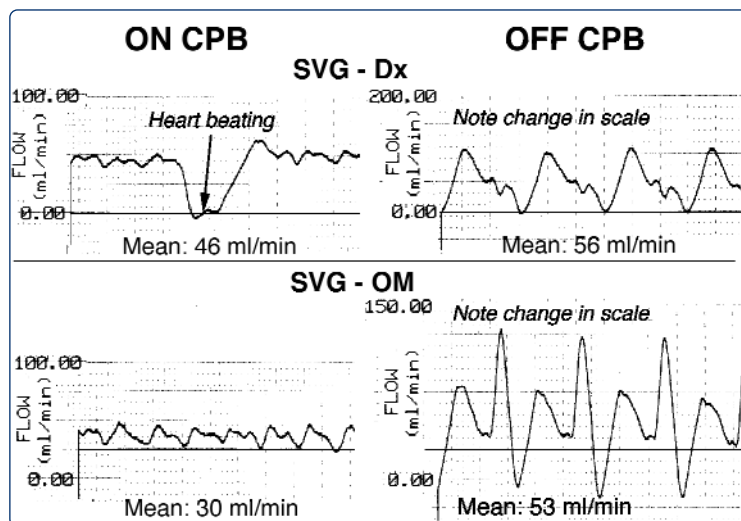
Fig. 4-1: Protocol for on-pump graft patency assessment.

### IV-A. On-Pump Graft Patency Assessment Protocol *cont.*

Figure 4-1 presents the protocol to be followed while the patient is undergoing on-pump CABG. The steps are similar to the protocol presented in Fig. 3-3, with the exception of “Flow Waveform Analysis” which is omitted. Grafts with questionable mean flow should be remeasured once the patient is off-pump, and further appraised through flow waveform analysis.

### IV-B. On-/Off-Pump Flow Comparison

Measuring graft flow on CPB gives qualitative and quantitative indications of post-pump flow. An acceptable on-pump flow with an oscillating pulsatile waveform and diminution in systole foreshadows a good corresponding systolic/diastolic pulsatile off-pump flow and waveform (Fig. 4-2 & 4-3).



**Fig. 4-2:** Examples of two vein grafts in which oscillating on-pump flow profiles with good mean flows auger corresponding good off-pump flows.

IV-B. On-/Off-Pump Flow Comparison *cont.*

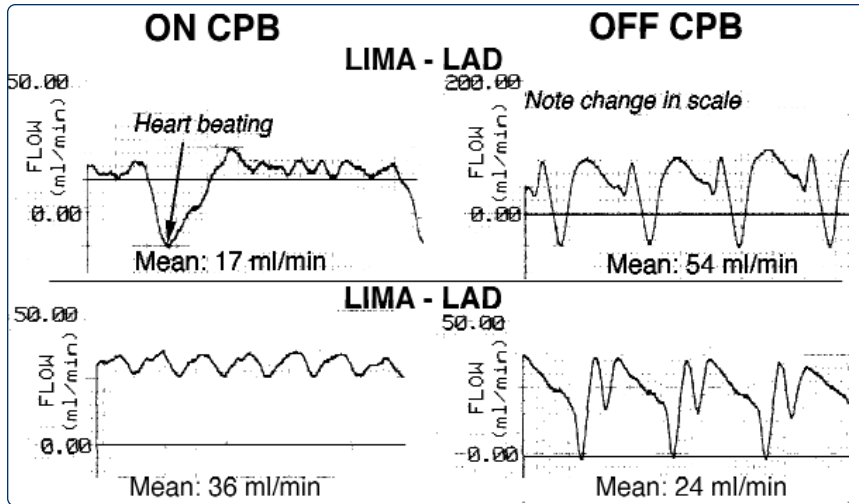


Fig. 4-3: Case examples in which all on-pump oscillating LIMA - LAD flows foreshadow good LIMA - LAD coronary off-pump.

Conversely, a low on-pump flow can foreshadow an unacceptable flow off-pump (Fig. 4-4 and Case Study VI-B).

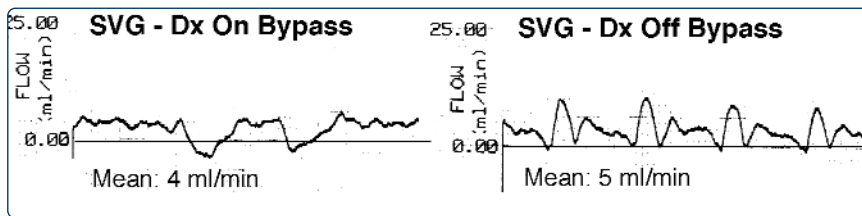


Fig. 4-4: A case example in which a poor on-pump flow in a saphenous vein graft to the diagonal predicted an unacceptable off-pump flow which required revision.