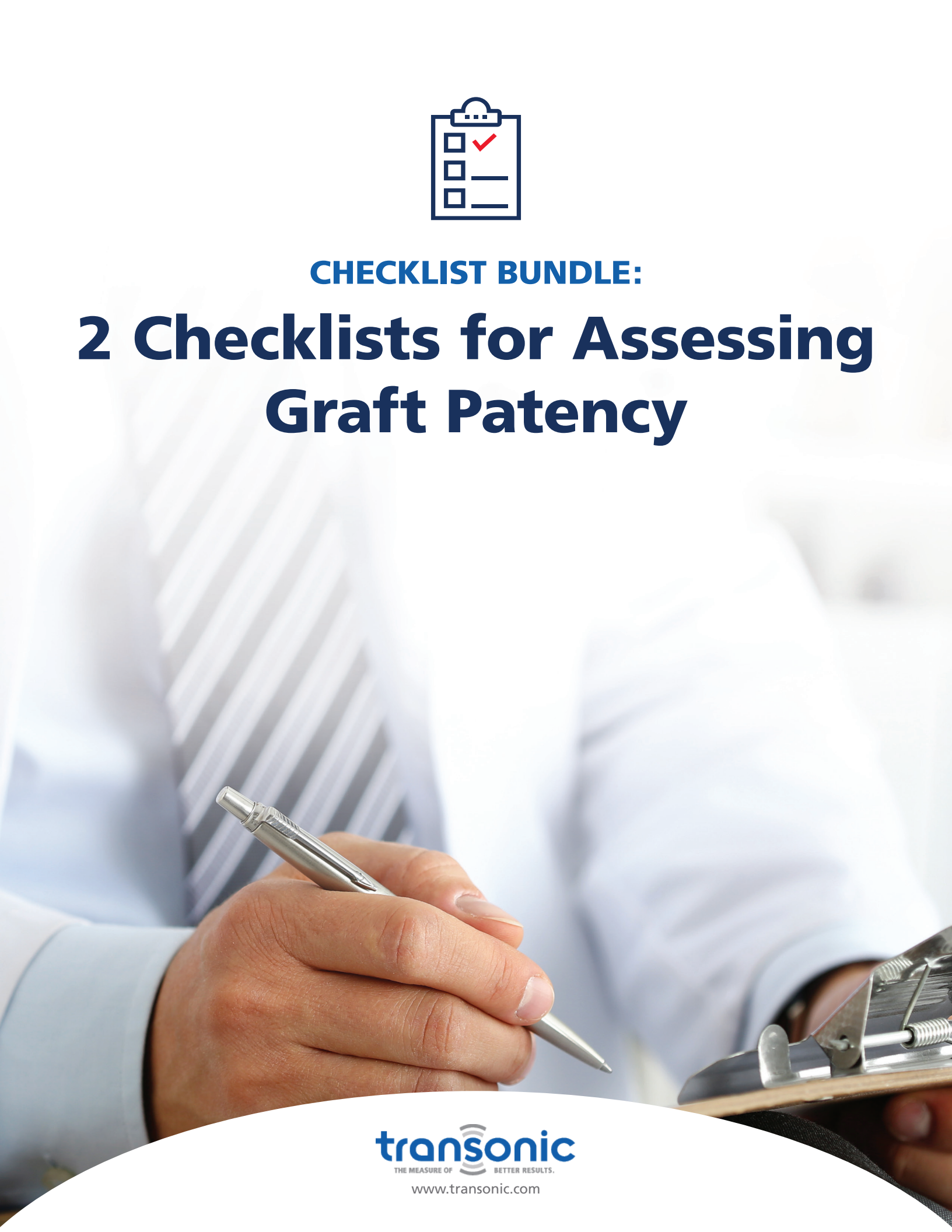
CHECKLIST BUNDLE:

2 Checklists for Assessing Graft Patency



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How to Accurately Assess Intraoperative Graft Patency with a Transonic Device

Initial Preparations

- ☐ **Internal mammary artery graft:** Skeletonize a 1.5 cm segment of its distal end before performing anastomosis
- ☐ **Vein:** No additional preparation needed

Assessing Intraoperative Graft Patency

- ☐ Select a Flowprobe. The bypass graft needs to fill at least 75% of the Flowprobe window
- ☐ Apply sterile ultrasound couplant into the window of the Flowprobe
- ☐ Turn on FlowSound. Listen for a low-pitch zero flow hum, which means the probe is properly connected to the Flowmeter and there's adequate ultrasound signal
- ☐ Place the Flowprobe on the bypass graft bending the probe's neck as needed. Don't place the probe over surgical clips or sutures
- ☐ Look for the ultrasound's signal quality on the AureFlo monitor or Flowmeter's front panel display
- ☐ Observe the contraction of the heart
- ☐ Listen for a strong diastolic flow component from FlowSound
- ☐ Occlude the native coronary artery proximal to the anastomosis
- ☐ Listen to the pitch of FlowSound and check mean flow. If it increases, there is competitive flow
- ☐ When the flow has stabilized after 10 to 15 seconds, note the mean flow displayed on the Aureflo or front panel of the Flowmeter
- ☐ Press print on the Flowmeter or press snapshot or record on the AureFlo
- ☐ Hold the probe steady on the bypass graft until the printer stops

Rules of Thumb for Determining Mean Flow Assessment

- ☐ Look for mean flow ≥ 30 mL/min or >20 mL/min in a smaller patient. This indicates a patent graft
- ☐ If mean flow is < 5 mL/min, the graft is suspect
- ☐ Look at flow waveforms if mean flows are between 5 mL/min - 30 or 20 mL/min

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What to Do When Flows Do Not Confirm Graft Patency

Flow is < 5 mL/min

- ☐ With the probe on the bypass graft, turn on FlowSound and listen for the change in pitch as the area around the anastomosis is manipulated
- ☐ Look for kinks or twists in the graft
- ☐ Look for low MAP
- ☐ Look for flow with diminished pulsatility (dampened waveform)
- ☐ Redo anastomosis if you have found a technical error

Questionable Flows:

More than 5 mL/min, less than 20-30 mL/min

- ☐ Examine waveforms for a repetitive flow pattern
- ☐ **For left heart grafts:** look for a diastolic dominant pattern in the waveform where the diastolic blood volume exceeds the systolic blood volume
- ☐ **For right heart grafts:** look for a systolic/diastolic balanced waveform; with a systolic peak is followed by a proportionally strong diastolic profile
- ☐ **In stenotic grafts:** look for a waveform where mean flow is low and the systolic peak dominates the flow profile

Secondary Considerations

D/S RATIO AND DF%

- ☐ For the left heart graft: D/S ratio >2 or DF% ≥ 67% is an acceptable diastolic-dominant profile
- ☐ For the right heart graft: D/S ratio between 1 and 2 or DF% between 50% and 67% is an acceptable diastolic-systolic balanced profile
- ☐ D/S ratio <1 or DF% <50% is a systolic dominant flow, which signals the need for further examination of the graft

PULSATILITY INDEX (PI)

- ☐ Re-examine the graft if PI is greater than 5 or lower than 1. These numbers indicate low mean flow and a systolic-dominant flow pattern

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