Microvascular Tests

Transcutaneous Oxygen Measurement (TCOM)

Definition: non-invasive technique used to assess the oxygenation status of the skin and underlying tissues.

Purpose: TCOM testing helps evaluate tissue oxygenation levels, particularly in patients with compromised circulation or wound healing issues.

Interpretation:

Normal TCOM: ≥ 40 mmHg

Borderline: 30-39 mmHg

Critical ischemia: < 30 mmHg

Clinical Applications:

Assessment of tissue viability in wounds

Determine appropriate level of amputation

Monitoring response to hyperbaric oxygen therapy

Guiding revascularization procedures in PAD

Skin Perfusion Pressure (SPP)

Definition: a non-invasive diagnostic test used to assess the blood flow to the skin, particularly in the lower extremities.

Purpose: SPP testing helps evaluate the perfusion status of tissues, aiding in the diagnosis and management of peripheral arterial disease (PAD), diabetic foot ulcers, and other vascular conditions.

Procedure:

1) Place a pneumatic cuff around the patient's limb (typically the ankle or toe)

2) Inflate the cuff to a suprasystolic pressure

3) Use a laser Doppler probe or similar device to measure the pressure at which blood flow returns to the tissue

Interpretation:

Normal SPP: ≥ 40 mmHg

Borderline: 30-39 mmHg

Critical ischemia: < 30 mmHg

Clinical Applications:

Assessment of wound healing potential

Monitoring response to vascular interventions

Risk stratification for limb salvage procedures