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# The role of transcutaneous oxygen tension measurement in the assessment and classification of lower limb ischemia.

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I have the following potential conflicts of interest to report:

Consulting

Employment in industry

Stockholder of a healthcare company

Owner of a healthcare company

Other(s)

I do not have any potential conflict of interest

- Ankle-Brachial Index is known for its limitations in evaluation of PAD
- TCpO2 alternative approach for evaluation of PAD.

	ABI	TCpO2
<b>Wound healing<sup>1</sup></b>		
Sensitivity	0.48	<b>0.72</b>
Specificity	0.52	<b>0.86</b>
<b>Limb amputation<sup>1</sup></b>		
Sensitivity	0.52	<b>0.75</b>
Specificity	0.73	<b>0.86</b>



# 1. Systemic cardiopulmonary influence

Reference probe on thorax

# 2. Probe location

Adjacent to ulcer



Invariable anatomical location



# 3. Probe temperature

Increase of temperature ( $42^{\circ}$  C to  $45^{\circ}$  C) shows  $\pm 30$  mmHg incline<sup>1</sup>

1. The Influence of Sympathetic Nerves on Transcutaneous Oxygen Tension in Normal and Ischemic Lower Extremities (Rooke et al.)



# Aim

To examine TCpO<sub>2</sub> studies regarding PAD on there administration of these factors.



# Results

Reference probe used	Studies	Probe location	Studies	Probe temperature	Studies
No	20	<b>Peri-lesionair</b>	<b>5</b>	45° C	4
Yes	2	1st metatarsal place	5	44° C	9
		Random dorsum	4	42° C	2
		2nd metatarsal place	3	34° C	1
		Proximal of the third toe	1	Not mentioned	6
		Ankle	1		
		Unknown	2		



# Conclusion

The application of a **reference probe**, **standardizing probe locations** and **probe temperature** might improve the added value of current TcpO<sub>2</sub> measurement in patients with PAD.



# Recommendations

- Use thorax reference TcpO2 probe
- In case of wounds on foot dorsum, measure peri-lesionair
- Default probe temperature is warranted

