

# **Repeatability of USCOM<sup>®</sup>-measured cardiac output and systemic vascular resistance in normotensive non-pregnant and pregnant women**

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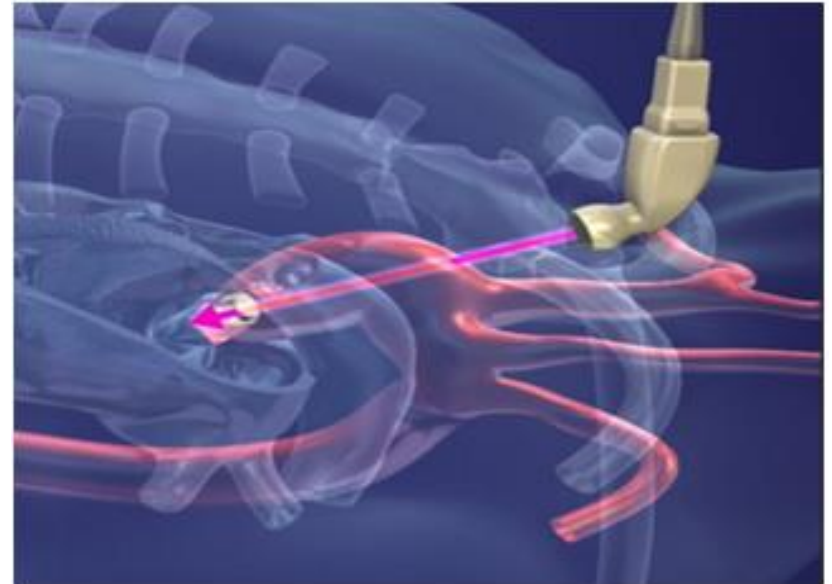
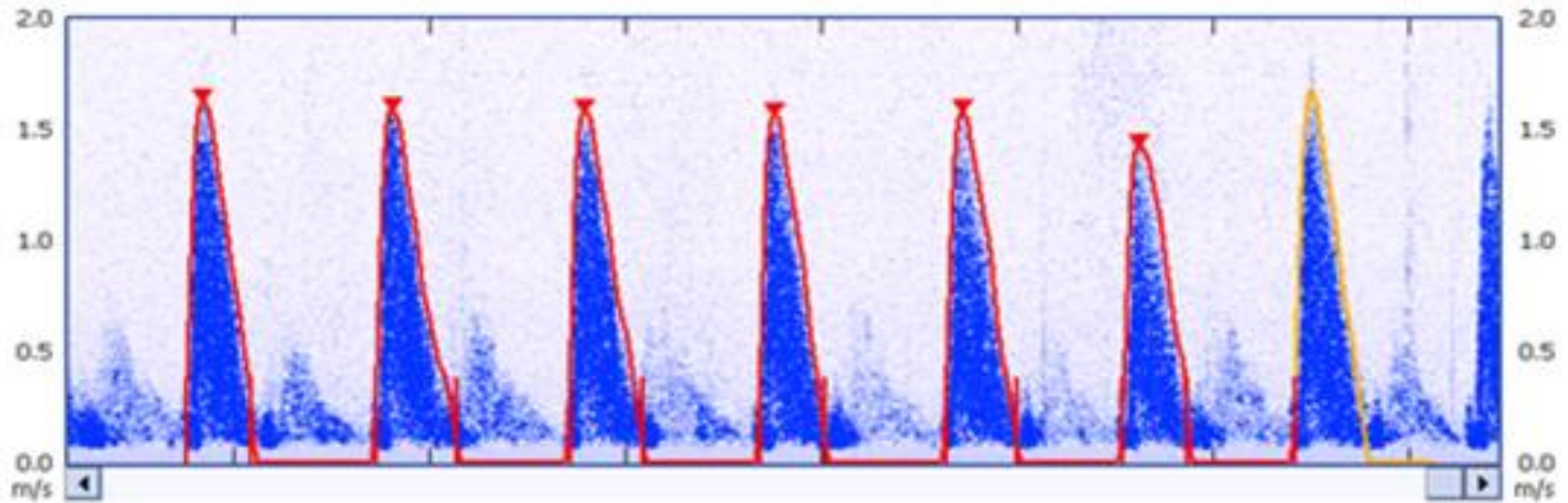
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**A simple device to measure cardiac  
output in pregnant women**

# Background

- Early changes – lower cardiac output (CO) and higher systemic vascular resistance (SVR)
- Measurement of CO and SVR currently impractical
- Use in prediction, monitoring, tailoring therapy

# The USCOM



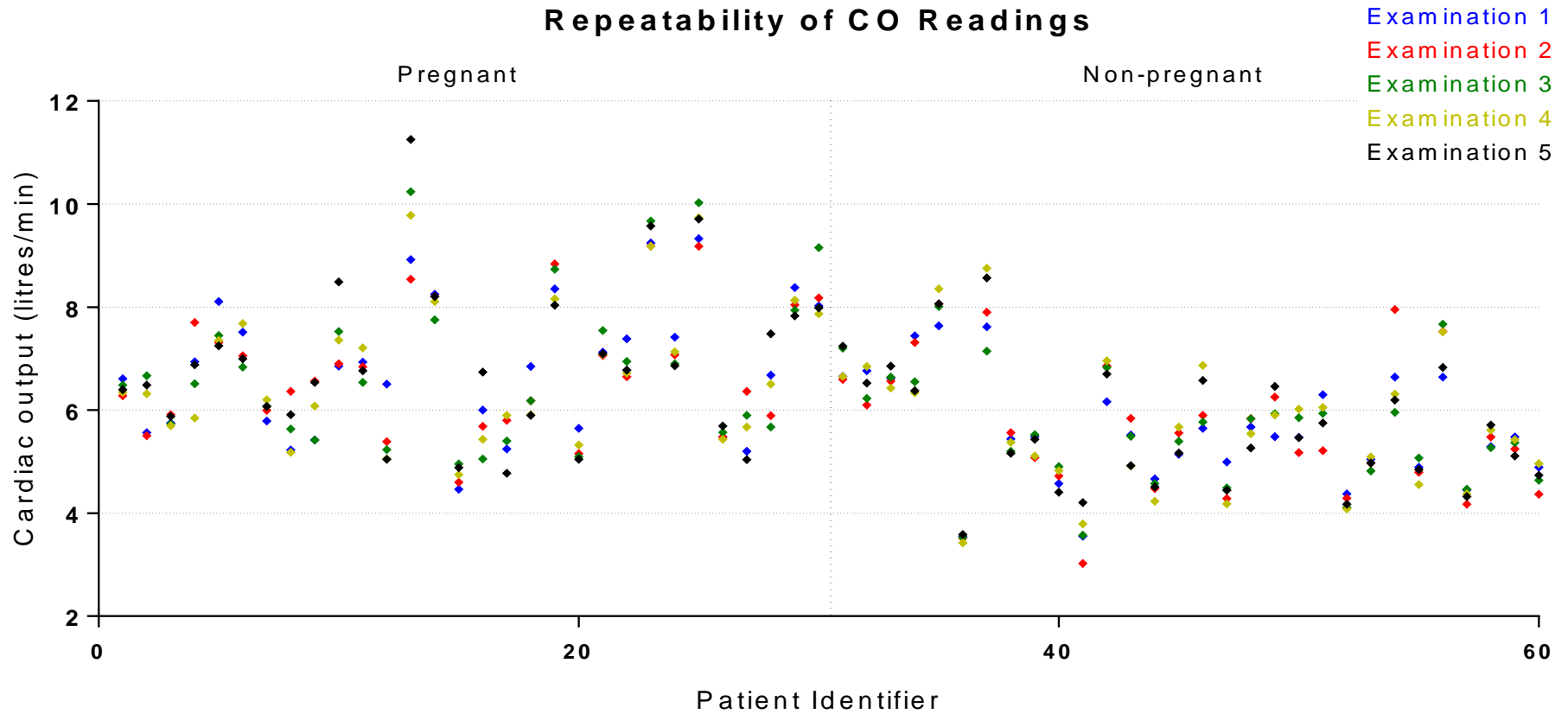
# Aims

- Absence of USCOM data in pregnancy
- Cannot assess use in prediction or accuracy
- Conclusions cannot be drawn from non-pregnant data
- We assessed repeatability in pregnancy

# Methods

- 30 non-pregnant, 30 pregnant of any gestation
- Cardiac or renal disease excluded to standardise approach
- Five CO measurements in each woman, identical technique
- BP measured to calculate SVR

# Results – cardiac output



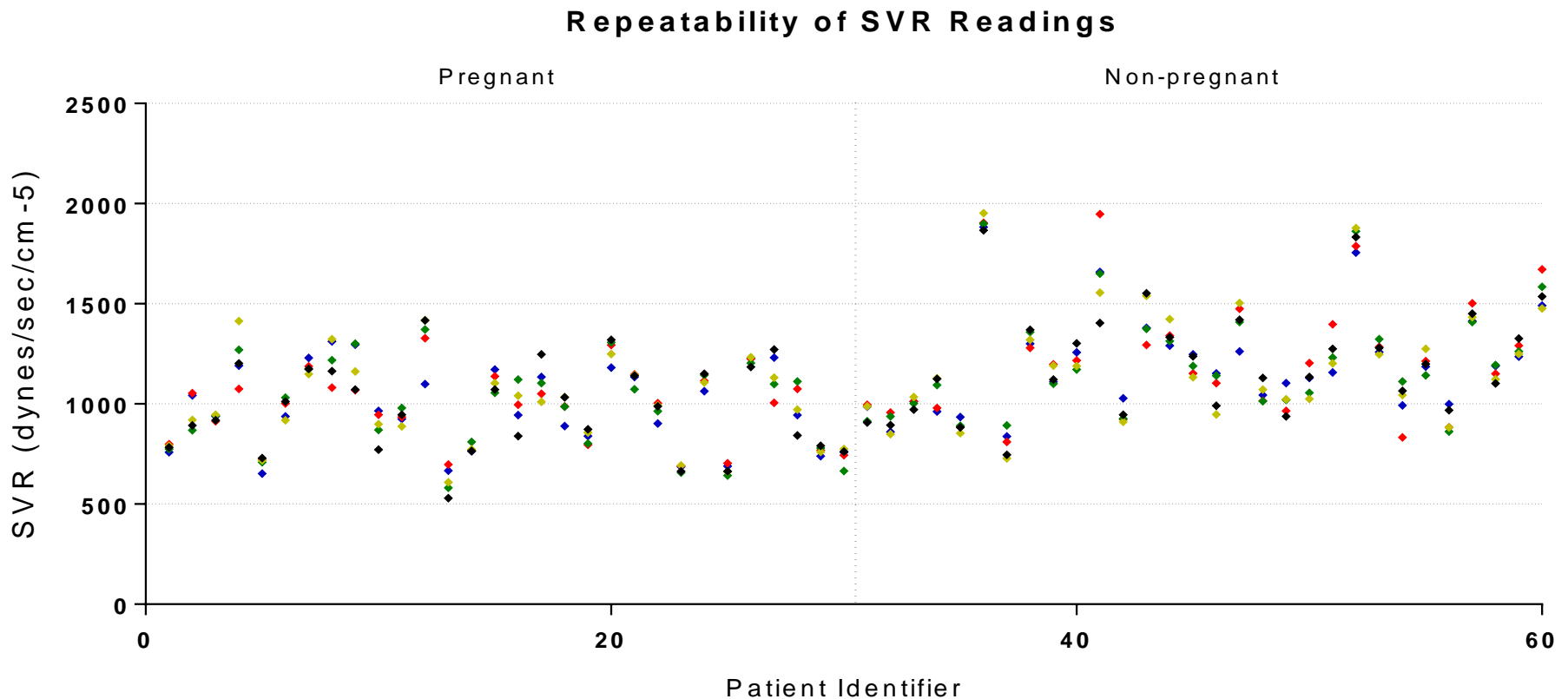
# Conclusion

- This study demonstrates that single measurements with the USCOM are highly consistent.
- Good repeatability encourages further investigation of accuracy and value as a predictive tool.



# Results – systemic vascular resistance

- Mean SVR pregnant 981 (201) vs non-pregnant 1211 (271)



# Results

Measurement	Group	Between-patient		Within-patient		Residual	
		Variation	SD	Variation	SD	Variation	SD
CO (L/min)	Pooled	1.8730	1.3686	<0.0001	<0.0001	0.1617	0.4021
	Pregnant	1.7334	1.3166	<0.0001	<0.0001	0.2045	0.4522
	Non-pregnant	1.3229	1.1502	<0.0001	<0.0001	0.1189	0.3448
SVR (dynes/sec/cm <sup>-5</sup> )	Pooled	68454	261.64	<0.0001	<0.0001	4876	69.83
	Pregnant	39532	198.8	<0.0001	<0.0001	4678	68.4
	Non-pregnant	72491	269.24	<0.0001	<0.0001	5073	71.23