

I. Hormones/analytical

Hormones
Cytokines
Glucose
A1C
Lipids
Multiplex (MSD)
Human/animal



III. Energy Expenditure

Doubly-labeled water

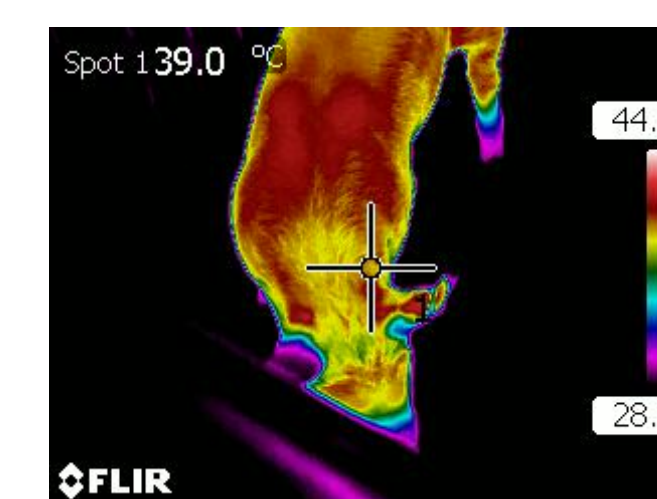
- Total energy expenditure
- Activity-related EE
- Free-living (2 weeks)

Indirect calorimetry

- Canopy: Resting EE
- Whole-room
 - Total, resting, sleeping EE
 - Substrate oxidation
 - Exercise metabolism
 - Postprandial metabolism

IR camera

- Surface thermography



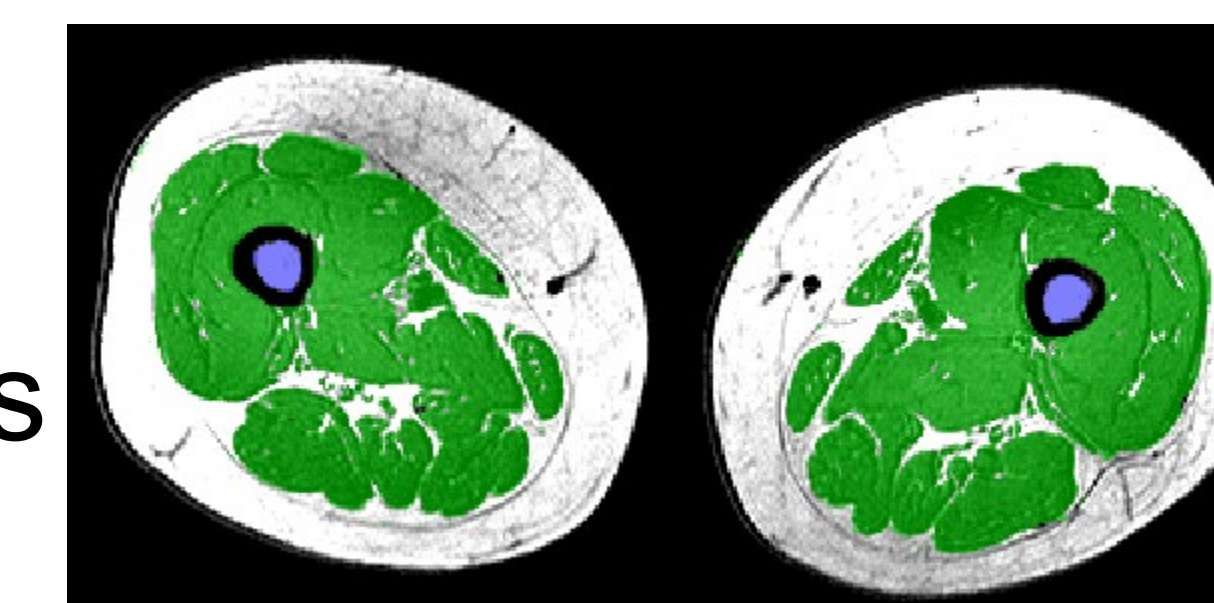
IV. Body Composition

Dual-energy X-ray absorptiometry (DXA)

- Total fat, lean, bone mass
- Bone density
- Visceral fat

CT/MRI scan analysis

- Fat distribution
- Regional tissue composition



Bod pod (adults and children)

Pea pod (infant)

Total body water

BIA

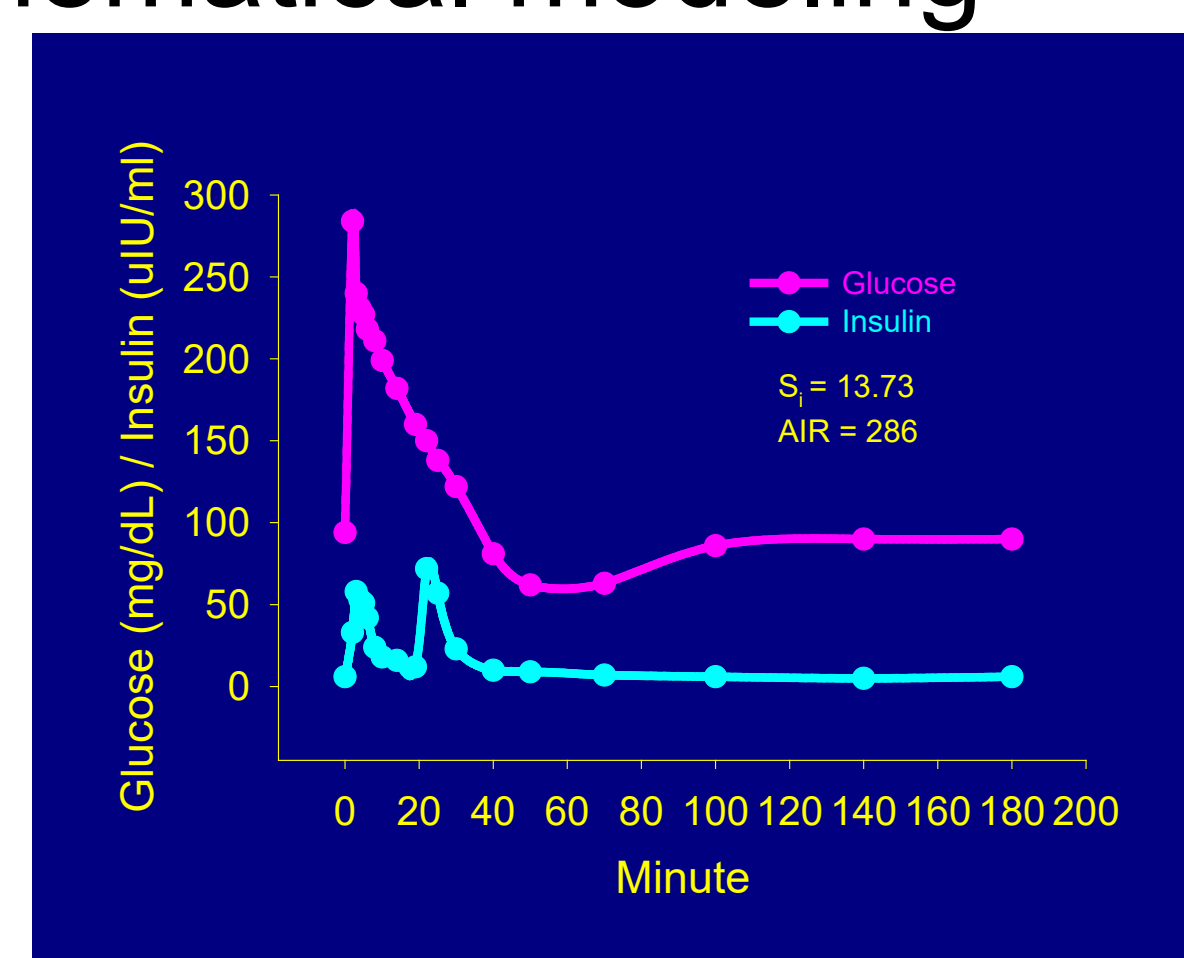
Hand-held ultrasound



II. Insulin sensitivity/secretion

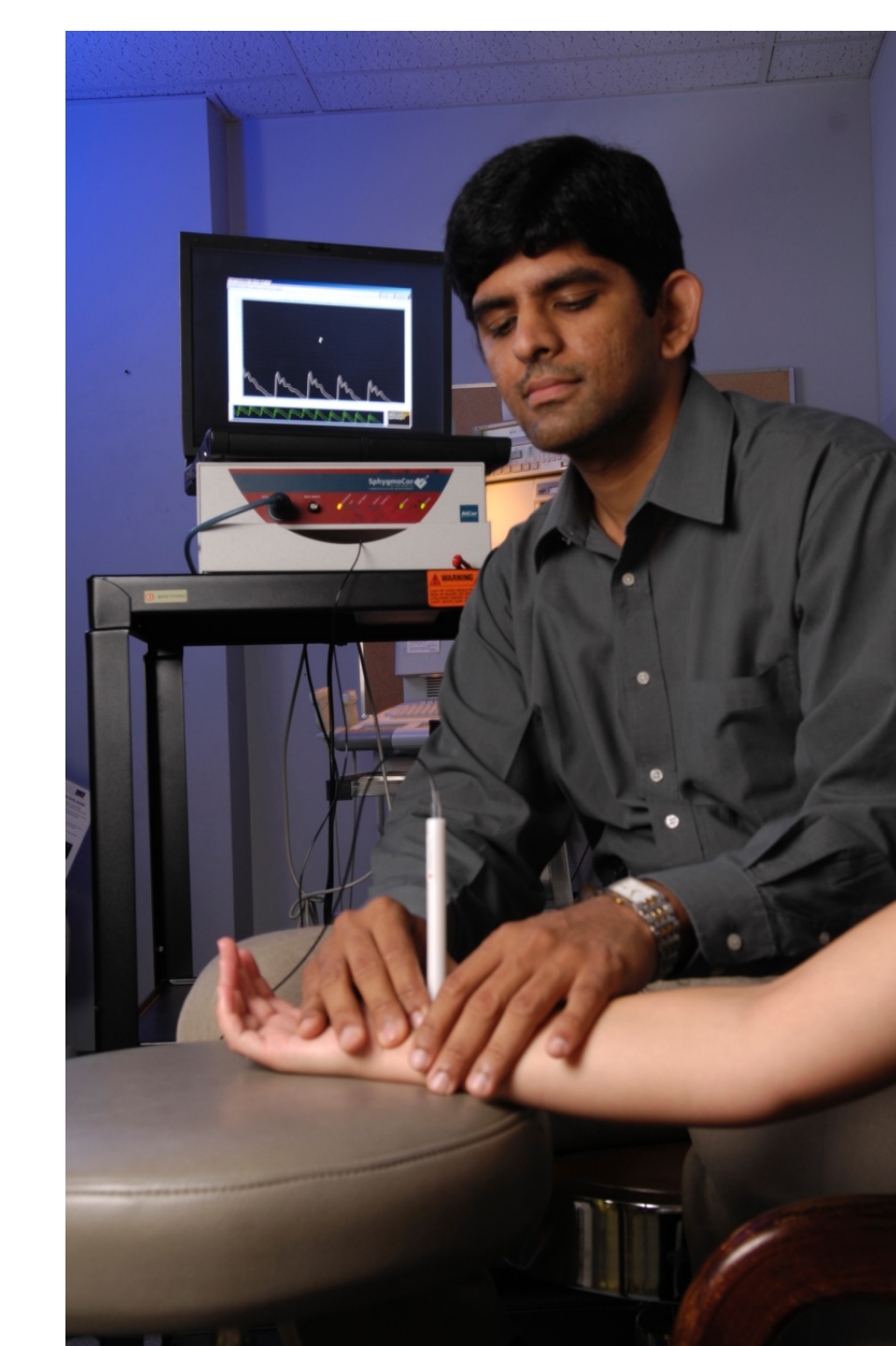
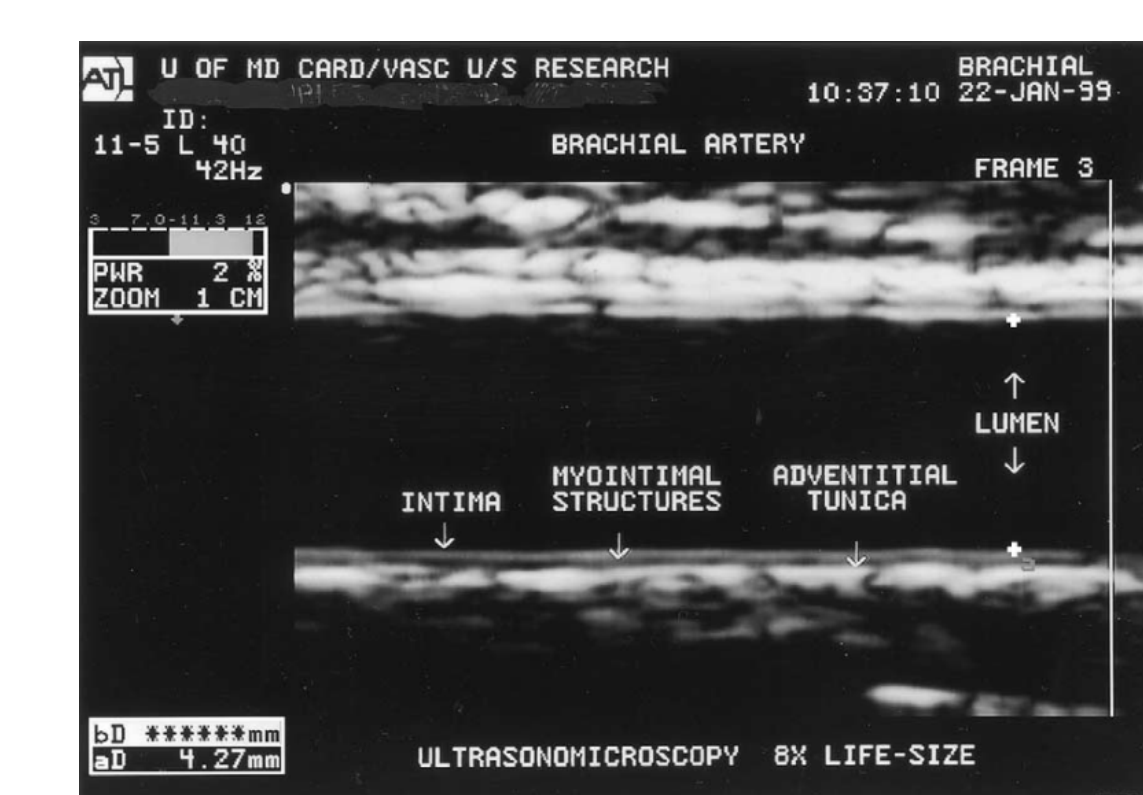
Insulin sensitivity

- Intravenous glucose tolerance test (IVGTT)
 - Mixed meal tolerance test (MMTT)
 - Oral glucose tolerance test (OGTT)
 - Mathematical modeling
- β -cell response to glucose
- IVGTT, OGTT, MMTT
 - Mathematical modeling



V. Cardiovascular

Pulse wave velocity
Flow-mediated dilation
24-h blood pressure monitoring



Core Personnel and Contact Information

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