ASX/MEDIA RELEASE

Presentation of PAD Pilot Trial Results at Association of International Vascular Surgeons Conference

SYDNEY 22 March 2010: Leading Australian developer and manufacturer of prosthetic implants and medical devices, Advanced Surgical Design and Manufacture Limited ("ASDM") (ASX: AMT) today announced the presentation of the results of trials done to date on the leg saving Hyperperfusion treatment and the methods of isolated organ chemotherapy perfusion.

The presentation was to a group of influential vascular surgeons who had gathered from around the world at the Association of International Vascular Surgeons (AIVS) Conference in Ischgl Austria and is by invitation only. These internationally renowned vascular surgeons are among the group being considered for establishing the next phase of the clinical trial of the innovative PAD access device.

A copy of the presentation follows this release.

Contact Details: Company
Dr Greg Roger – Chief Executive Officer
Advanced Surgical Design & Manufacture Limited
T: 61 2 9439 4448

ABOUT ADVANCED SURGICAL DESIGN AND MANUFACTURE

ASDM designs and manufactures medical devices. Its principal product is the Active Knee, a prosthetic implant of which more than 4,000 have been implanted. This product is supported by a range of Orthopaedic accessories and surgical tools and other Orthopaedic products.

ASDM provides a highly effective integrated service to surgeons building on its strengths in design and engineering. Core capabilities that underpin this service are integrated design and engineering, regulatory/compliance competency, manufacturing, distribution and customer service.

The company has built an extensive patent and product development portfolio through collaborative research relationships with universities, companies and surgeon inventors that extends beyond orthopaedics. These collaborations are yielding promising projects in several specialities with strong prospects for commercialisation over the next few years.

For more information, please visit www.asdm.com.au

Trans-cutaneous large bore access for limb saving and isolated organ perfusion

- **Rod Lane**
- **Matt Huckson**
- **Mark Phillips**
- **Greg Roger**
- **Darryl McMillan**

MACQUARIE UNIVERSITY
SYDNEY ~ AUSTRALIA

ASDM

Scope for using the Peripheral Access Device (PAD)

- **Limbs** - Hypertensive Extracorporeal Limb Perfusion (HELP) to save limbs from amputation
- **Chemotherapy** – repeatable access for administering chemotherapy to isolated organs
- **Heart** – aortic root counterpulsation with hyperperfusion to control coronary flow

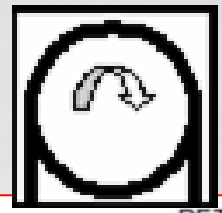
Limbs: Hypertensive Extracorporeal Limb Perfusion (HELP)

- Background – Collateral Development what we know:
  - Degree of collateralisation determines disability
  - Elevated shear stress is the main stimulus for collateral development

Literature – Shear Stress & Collateral Development

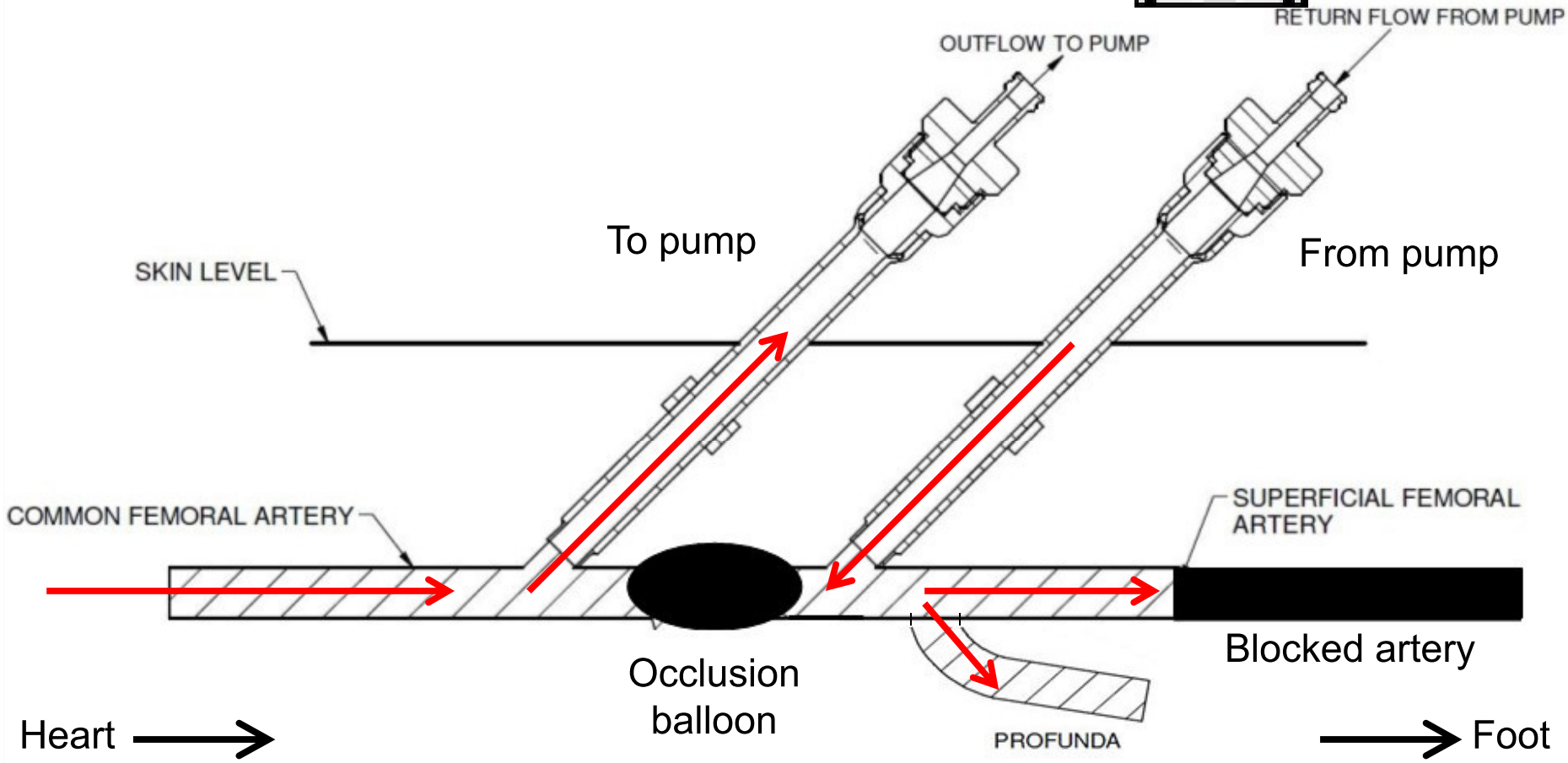
- Unthank et al. 1996:
  - Rat ileal artery (ligated, ~250μm) – achieved 30% luminal expansion after 7 days with 175% initial increase in shear
- Pipp et al. 2004:
  - forming an AV fistula in pig hind-limb distal to ligation maintained elevated flows and shear stress, producing more complete collateral development
- Eitenmuller et al. 2006:
  - chronic increase in femoral artery shear stress in rabbit hind limb restored normal maximal conductance

Limb hyperperfusion – how it works



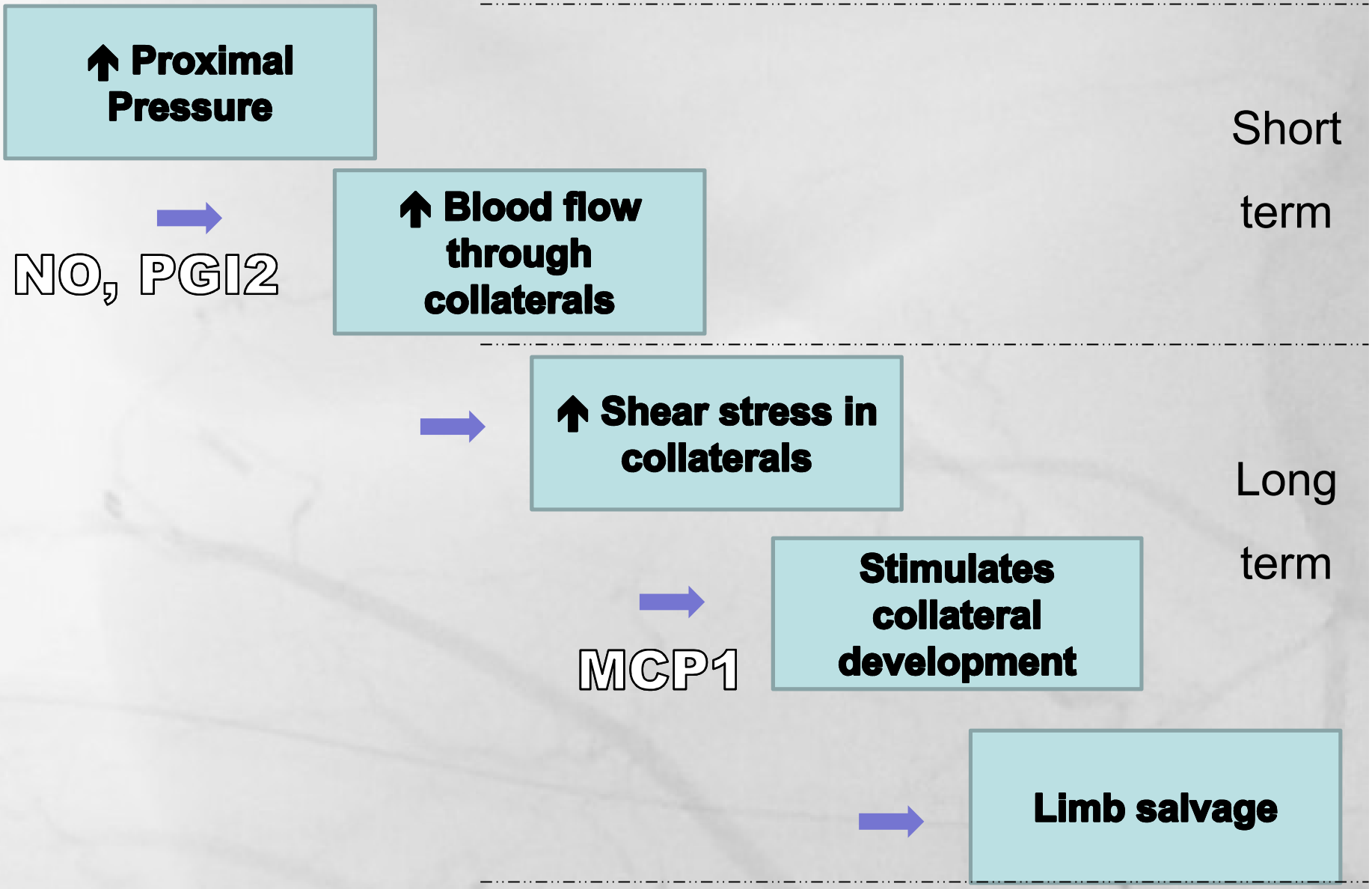
Pump &

Sensors



HELP – how it works

Re-creating Conditions as in Peak Exercise



Hypertensive Extracorporeal Limb Perfusion - Aims

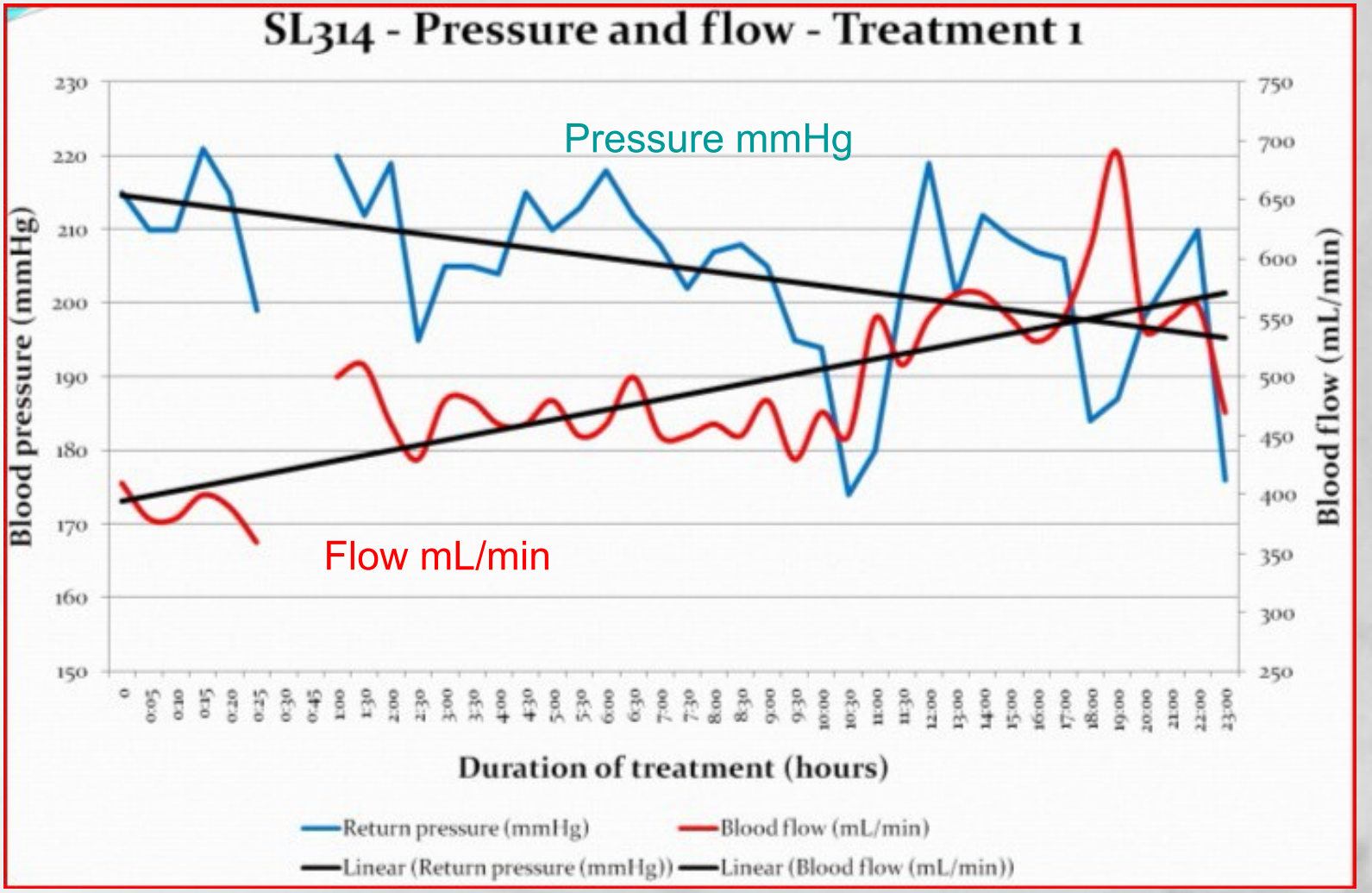
- Increasing flow distally through existing collaterals in the short-term (NO, PGI_2)
- Stimulating the remodelling and growth of new collaterals in the long-term (MCP1)

Our Clinical Experience

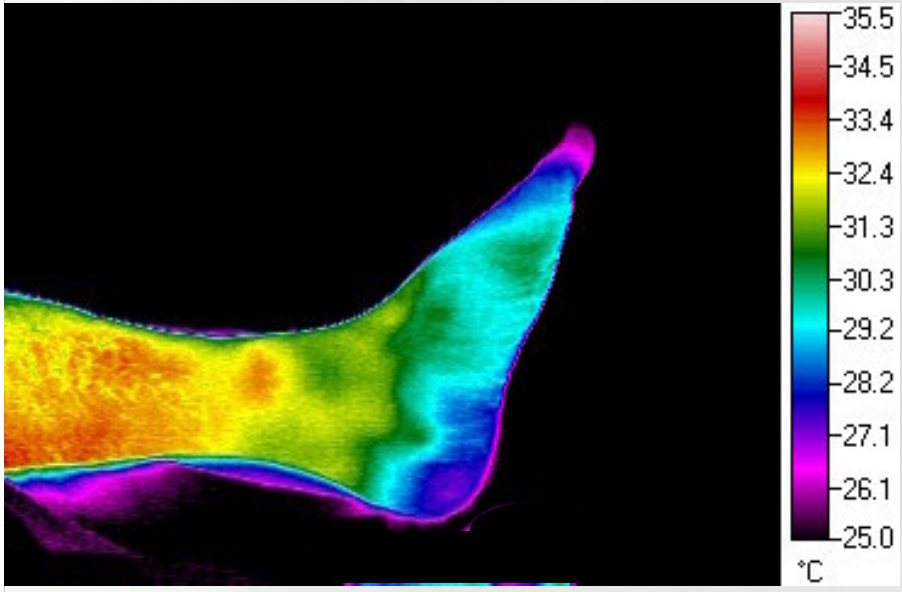
- Patients treated in this Pilot Study had end-stage critical limb ischaemia
- These patients had no other options other than major amputation
- The Peripheral Access System (PAS) was implanted in the proximal femoral artery to allow repeated access for up to 30 days

Our Clinical Experience

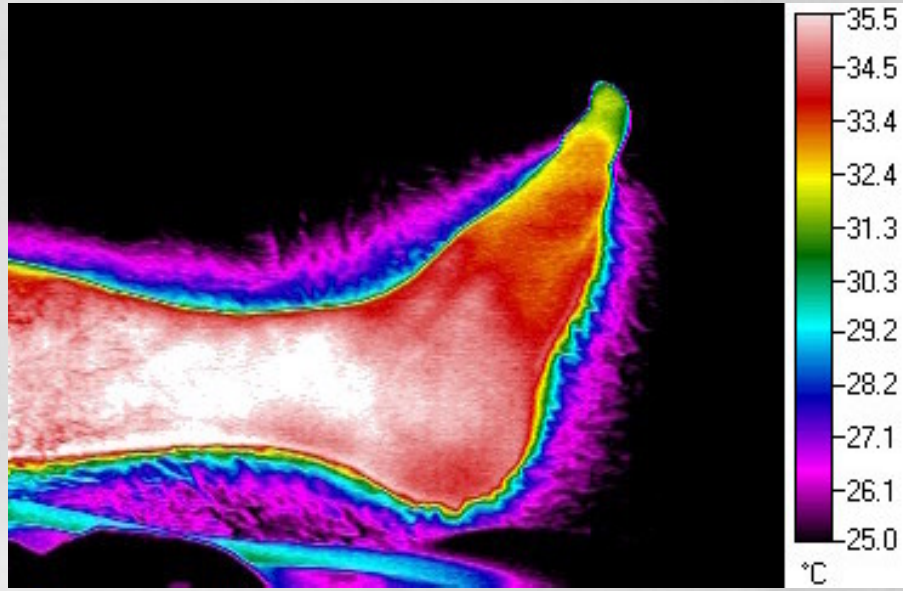
- Flow through the pump was set to ~400mL/min → 800mL/min
- The pressure in the isolated femoral artery (distal to the pump) was ~200mmHg → 250mmHg
- The hyperperfusion was continued for several sessions of 24 → 36 hours each


SL314 - Pressure and flow - Treatment 1
Pressure mmHg
Flow mL/min
Blood pressure (mmHg)
Blood flow (mL/min)
Duration of treatment (hours)
Return pressure (mmHg)
Blood flow (mL/min)
Linear (Return pressure (mmHg))
Linear (Blood flow (mL/min))

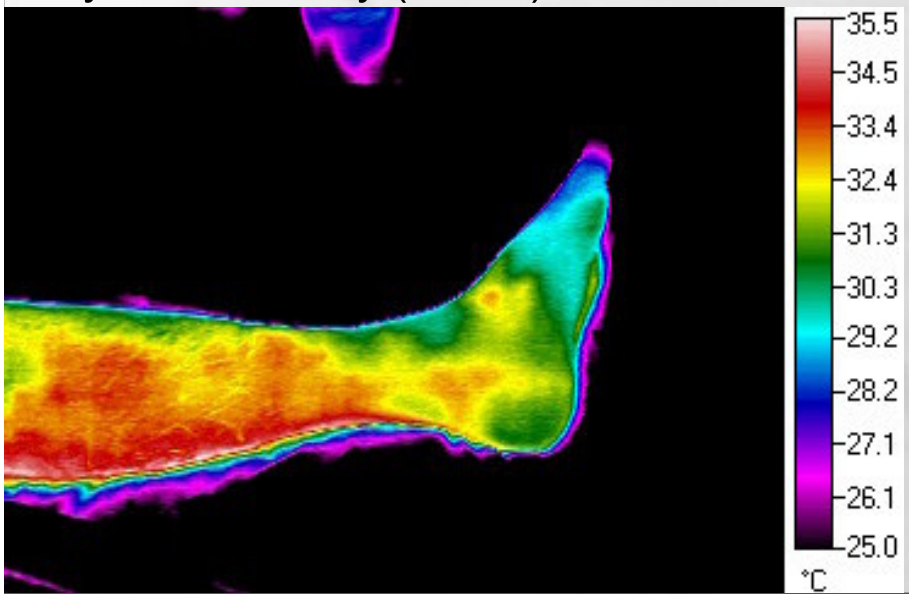
Day 0 - Screening



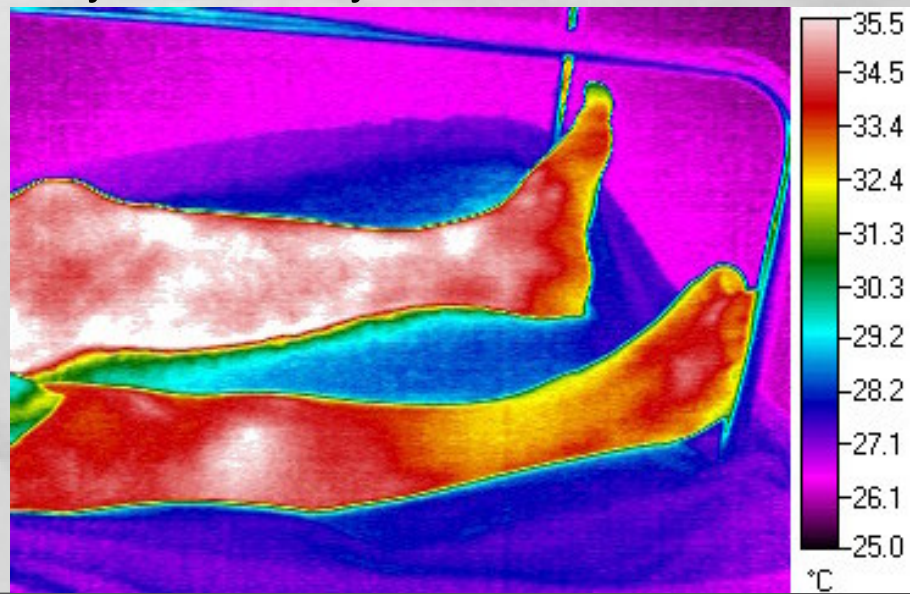
Day 1 – Receiving hyperperfusion Rx



Day 3 – Rest day (no Rx)



Day 7 – Two days after second treatment



Pilot Study Results - 15 patients

- Peak pressure: 300mmHg (pancycle)
- Produced 4x to 8x mean baseline limb flows of 550+ml/min in 14/15 patients
- Limb salvage (mean 12month, range 3-36 month):
  - 1 limb >3 years
  - 4 limbs >2 years
  - 2 limbs > 12 months
  - 8 limbs subsequently amputated
  - 0 perioperative deaths

Isolated Organ Chemotherapy

- $12x10^6$ new malignant tumours globally/annum
- 50 new treatment regimes/annum
- Need a delivery platform for catheter directed infusion - PAD
- Repeatable organ/limb isolation
  - Partial: by decreasing normal arterial inflow
  - Complete: obstruct arterial and venous in/outflow using ECMO; discard and replace toxic blood

Isolated Chemotherapy

- Increased drug concentration in the tumour-supplying artery
- Increased dose
- Drug concentration in the venous outflow is decreased
- Lower systemic toxicity

“Repeatable” Arterial Access

- **In animals**
  - 8 sheep; 67 unimpeded openings – up to 37 days
- **In humans**
  - 15 patients; 31 unimpeded openings – up to 21 days (in limb hyperperfusion patients)
- Approved for human use Class IIa (TGA, CE Mark)

Randomised Studies: Hepatic Arterial vs Systemic Chemotherapy for colorectal liver metasteses using Fluoruoracil

		Response Rate %	
Group	No. Patients	Hepatic artery	Systemic
Memorial Sloan Kettering	100	50	20
Northern California Oncology Group	143	37	10
National Cancer Institute	64	62	17
Hepatic Tumor Study Group	43	58	38*
City of Hope	41	56	0

*5-day infusional Fluoruoracil used

The chemotherapy source book By Michael Clinton Perry

Heart - Cardiac Applications

- Can be applied to:
  - Inoperable heart failure
  - Post-pump weaning
  - Graft hyperperfusion
- Needs:
  - Simple and repeatable coronary/cardiac access
  - Counterpulsation
  - Coronary artery hyperperfusion

Conclusions - PAD

- Demonstrated limb salvage – HELP
- Potential applications for:
  - Isolated Chemotherapy
  - Coronary

Thank You