

Perfusion Oncology Fireside Chat
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Isolated limb infusion (ILI) is a procedure for the treatment of recurrent or advanced malignant melanoma or sarcoma of the extremities. This technique was first reported in 1994 at the Sydney Melanoma Unit (Sydney, Australia) as a less expensive, less invasive, more simplistic alternative to hyperthermic isolated limb perfusion (HILP). The goal of this therapy (and HILP), is to decrease the rate of tumor growth and maintain limb integrity and function.

ILI versus HILP at Duke

	ILI	HILP
Hyperthermia	Moderate hyperthermia (37.5 degrees)	Maximum hyperthermia (>37.5)
Circuit components	See below	Pediatric oxygenator and cannulae, ALF, ¼” HILP tubing pack, wash-out receptacles
Hardware	IV pole, heater	Heart-lung machine, heater
Ideal chemotoxic environment	Hypoxia, acidosis	Hyperoxia, alkalosis
General Anesthesia	Shorter duration due to shorter procedure time	Longer duration due to longer procedure time
Limb isolation technique	External pneumatic tourniquet	Internal Steinman pin
System pressure	Low-low incidence of systemic leaks	High-greater incidence of systemic leaks
Repeat procedures	Tolerated well	Not usually repeated due to invasive nature of procedure
Blood usage	Not normally needed	Patients receive 1-2 units
Drug circulation time	30 minutes	60 minutes

Specific ILI Components:

Heater /cooler	Temperature probe box
IV pole	2 temperature probe cables
4 tubing clamps	ACT machine/tubes
Heat exchanger bracket	
Heat exchanger (Gish Vision)	Quick prime line
4 large-bore, 3-way stopcocks	2-infusion sets with bulb pump
Sterile blades	2 20’ large bore IV tubing
2 male perfusion adapters	20 cc syringes
Empty 1-liter bag (for wash out)	Non-vented caps
3/16” tubing (4” piece)	¼” tubing (4” piece)
Fluid proof gown	Gloves
Eye protection	Towels
Perfusion record	
1 Liter Nomosol-R) (warmed)	Pharmacy provides: Melphalan and Dactinomycin

“An Isolated Limb Infusion Technique: A guide for the Perfusionist” McDermott, P,et al, JECT. 2005;37:396-399