

# HIGH PRESSURE INTERMITTENT PNEUMATIC COMPRESSION THERAPY

## CLINICAL BENEFITS

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# Disclosures

No financial or intellectual conflict of interest

# Clinical Experience

- 27 yrs; wound healing, prevention of amputation, amputee care
  - 24 yrs community practice (all settings)
  - 3 yrs VA (current)
- 2012 – 2015
  - 41 pts. trialing HPIPC
    - Wound healing
    - Pain; Claudication, arterial rest pain
    - Amputation prevention
    - Non-surgical severe PAD

# Case #1 Ambulation increased, pain reduced

71 year old Veteran

Jan 2014 Referred for ischemic R gt toe ulcer

Multi Level calcific arterial disease

-deemed inoperable

Neuropathic from ETOH (alcohol)

Smokes 1 1/2 PPD

Pain; significant, nightly, bilateral

-uses Morphine, Vicodin

## TREATMENT PLAN

HPIPC Pump provided

-poorly tolerated, poor follow through,  
active ETOH, tobacco

# Case #1 Pain Reduced, Ambulation increased

71 year old Veteran

Oct 2014 Right BKA (below knee  
amputation) -due to non healing  
ulcers -unremitting pain

Significant risk  
Contralateral amputation



# Case #1 Pain Reduced, Ambulation increased

71 year old Veteran

Oct-Dec 2014 Inpatient Rehab for healing, prosthetic training

- eCig (still w/nicotine)

- discontinued ETOH

**Dec 2014 Prosthetic ambulation (walking w/artificial leg)**

- severely limited due to left leg pain-claudication

- 40-50ft, 80ft max**

HPIPC Pump inconsistent

March 2015 Prosthetic ambulation <200 ft

HPIPC use increased to 45min-1hr BID

May 2015 Prosthetic Ambulation 300 ft before pain  
(claudication)

**June 11, 2015 Prosthetic Ambulation 800+ ft x2 w/o pain**

Improved quality of life, successful sobriety,

-no routine pain

# Case #2 Amputation averted

65year old Veteran with poorly controlled DM (Diabetes Mellitus)

mixed arterial and venous disease

tobacco 1 1/2 PPD and substance abuse

Followed for chronic venous ulcer, known arterial disease

April 2014 Left ABI 0.64 (normal >0.9)

Nov 2014

Presents with hypersensitivity vasculitis

Thought to be associated with drug reaction

(had been started on antibiotic for bladder infection)

Lesions over entire body

Shoe irritated lesions on toes + DM + arterial disease

- L Great toe ulcer

- L 2nd toe

## Case #2 Amputation averted



Vasculitic lesions on feet  
irritated by footwear  
developed deep ulcers  
exposed tendon and bone



## Case #2

### Failed care at home, admitted to skilled care

Dec-March

Managed as outpt

Inconsistent use of HPIPC

Referred for vascular surgery

-delays assoc. w/self care choices (failed appts)

Feb 2015 Arterial duplex

Monophasic flow noted at all levels of the left leg, indicative of **severe inflow** (iliac) disease (known). No flow is noted in the PFA

ABI .64



# Case #2

## Failed care at home, admitted to skilled care

March 2015

Failed care at home

- admitted skilled care
- increased consistent use of HPIPC
- started antibiotics for bone infection

Discharged early

- agreed to return to clinic
- Scheduled for forefoot amputation



# Case #2 Amputation averted

April 2015 Consistent outpatient visits, excellent self cares, HPIPC

“Will discuss w/surgeon... suggest holding on surgery due to his amazing progress”.

May 2015

He reports he has been 'religious' about using the arterial pump 2 hrs/day

June 2015

Toe #2 intact

Toe #1 almost healed

Infection resolved

Amputation cancelled



# Case #3 Amputation, ulcer prevention

## Pain improved

69 year old veteran, morbidly obese, Diabetes,

Oct 2013 L Above Knee Amputation

-arterial disease, non healing ulcers

-Wheelchair bound due to obesity, high level amputation

R Lower Extremity Arterial Disease

Non surgical candidate due to diffuse disease

Rest pain

HPIPC initiated on right leg 2013 after left leg amputation

### **Current**

- Daily use HPIPC

- No ulcers

- Reduced pain

- No further amputations

- Quality of Life improved (HE SENDS HIS REGARDS!)



# Summary

In our hands, HPIPC has been successful in

- helping to heal wounds
- preventing major amputation
- reducing or eliminating pain (claudication, rest pain)
- improving quality of life

For patients with non-operable vascular disease

- this represents an important option for treatment
- cost effective
- clinically effective

THANK YOU