EndoVenous Ablation: for PUBLIC

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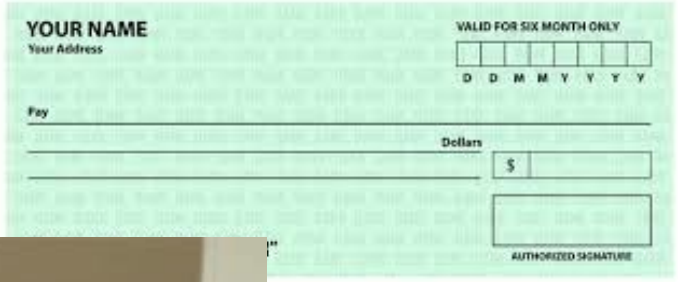
Disclosures

I have the following relationships with commercial interests:

- **Grants & Research support:** none
- **Travel stipends:** BD Bard, Shockwave, Cook, Penumbra, Inari, Abiomed & Getinge
- **Honoraria:** BD Bard, Terumo, Boston Scientific, Bentley Innomed & Sigvaris
- **Consultant:** Total Flow Medical (ECMO cannulas)

Dr. Jerry Chen, Inc



- Ex-pr… …Six
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  - Pitts…

Varicose Veins

Treatment goal:

- Eliminate reflux
- Reduce symptoms
- Minimize recurrence
- Improve QoL
- Avoid long-term complications

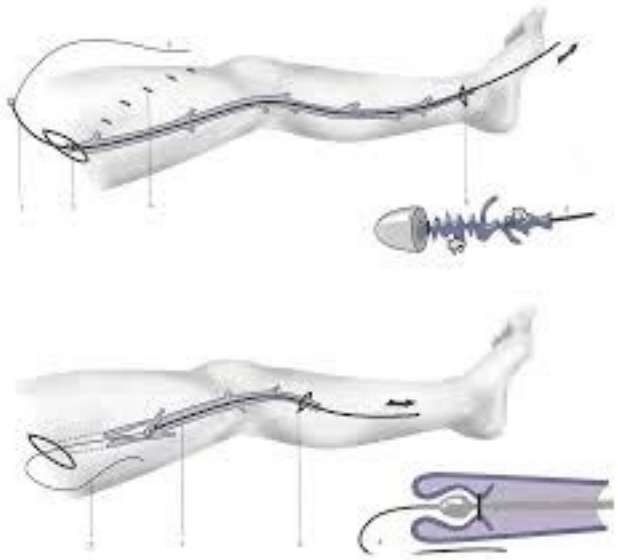
Treatment options:

- EVA or ligation/stripping +/- sclerotherapy

Vein stripping

…why are we *still* talking about this?

Vein Stripping



Vein stripping

Increased rates of recurrence

- 33% at 2 [illegible]

Increased [illegible]ons

- Nerve inj[illegible]
- Infection
- Hematom[illegible]
- Scarring
- Lymph lea[illegible]

Prolonged [illegible]

Early return to hospital (20%)

Carroll C, Hummel S, Leaviss J, Ren S, Stevens JW, Cantrell A, et al. Systematic review, network meta-analysis and exploratory cost-effectiveness model of randomized trials of minimally invasive techniques versus surgery for varicose veins. *The British Journal of Surgery* 2014;101(9):1040-1052.

EndoVenous Ablation (RFA)

- **Setting**: angio suite or OR
- **Anaesthesia**: local with mild sedation
- Non-invasive
- Insignificant recovery period
- Minimal patient preparation
- Safe & effective
- Low risk of infection, scarring & nerve injury

"The way we work in public health is, we make the best recommendations and decisions based on the best available data"

—

Tom Frieden

Facts: EVLA is safe

Table C.1: Evidence from systematic reviews/meta-analyses

Study	Methods	Results	Authors' conclusions
Lynch et al. 2015[2] SR/MA	**Search date:** various databases from inception until 31 Oct 2013 **Study selection criteria:**	**No. of included studies:** 9 reports of 6 RCTs with a total of 1,289 limbs. **Recurrence:** comparable between the two groups in the	EVLA is a safe alternative to traditional open surgery. There is some weak evidence to suggest that EVLA has a higher -detected months nt compared to wever, it may n less sensory mentation,
Nesbitt et al. 2014[17] SR/MA	and associated complications • Study design: RCTs **Quality assessment:** Cochrane risk of bias tool	and late recanalisation. Neovascularisation and technical failure were both statistically reduced in the EVLA group (P<.0001 and P=.0009, respectively). Long-term (5-year) outcomes were evaluated in one study, no association could be derived, but it appeared that EVLA and surgery maintained similar findings. • RFA vs. surgery: no differences in clinician noted recurrence; symptomatic noted recurrence was only evaluated in a single study. No differences for	e clinical trial s that FS, re at least as ry in the saphenous ue to large etween trials point r outcomes, cking in er RCTs are ould aim to e results in a congruent manner to facilitate future meta-analysis.

Facts

ed studies: 10 RCTs and 3 non-randomized trials with a 2,245 limbs. **ical success rates:** difference in initial technical success ss): Procedural failures were more common following thesia rate was significantly lower with EVLA vs. RFA 1) and surgery (P<.001). The rate of thrombophlebitis was antly lower for surgery vs. RFA (P=.003) and EVLA 3). No difference in the rate of thermal skin burns between nd EVLA.	EVLA for varicose veins is safe and effective compared with surgery in a 2-year range. More randomized controlled studies a significantly lower rate of paraesthesia as compared with RFA and surgery. Thermal skin burns occur with equal frequency in RFA and EVLA.

Financial data

Economic implications of endovenous great saphenous ablation in a public health care system

Abdalla Butt [a] · David Kopriva, MDCM, FRCS(C) [b,c]

Methods: retrospective review of EVA vs stripping 2003-14

Results:

- rates of EVA remained consistent pre & post public funding
- Case costs of stripping ($1965) > EVA (RFA: $1410)
- Total annual costs of GSV intervention decreased from $176k to $134k

Conclusions: introduction of public-funded EVA reduced global health spending by $42000, without increasing GSV intervention rate

Financial data

Table C.2: Evidence from HTAs

Study	Method	Results	Authors' conclusions
Brittenden et al. 2015[10] RCT and economic modelling evaluation	**Search date:** up to 2013 Assessment was primarily ba (the CLASS trial): • Population: 798 patients varicose veins from 11 U vascular centres • Intervention: FS (n=292), • Comparator: surgery (n= • Outcome measures: ○ Primary: QoL: Disease (AVVQ) and generic (6 months and cost-eff cost per QALY gained ○ Secondary: QoL at 6 varicose veins, VCSS rates, return to norma vein ablation rates, an • Study design: A parallel- without blinding, and eco evaluation **Quality assessment:** NR	**No. of included studies:** 9 RCTs that compared EVLA to open surgery, rgery. ith FS was ut was similar to that ent score for FS was o that for surgery. onent scores in the ns. ere greater for EVLA (1%) than after FS nan following surgery nd EVLA (P<.001) , at 6 months, FS ffective at a ceiling willingness-to-pay ratio of 20,000 per QALY. EVLA was found to cost $26,107 per QALY gained vs. FS, and was less costly and generated slightly more QALYs than surgery. Markov modelling using trial costs and the limited recurrence data available suggested that, at 5 years, EVLA had the highest probability (79%) of being cost-effective at conventional thresholds, followed by FS (17%) and surgery (5%).	Considerations of both the 6-month clinical outcomes and the estimated 5-year cost-effectiveness suggest that EVLA should be considered as the treatment of choice for suitable patients.

Standard of care

Vancouver Housing Market: Apr. 3rd, 2025 Update - WOWA.ca

The average home price in Greater Vancouver was $1,239,418, which decreased by 5.9% annually and climbed by 1.2%…

WOWA.ca

British Columbia

Rundown Vancouver house for $2.4M: Ridiculous or a bargain?

New house nearby sells for almost double the price

Lien Yeung · CBC News · Posted: Jan 29, 2016 9:18 PM CST | Last Updated: January 30, 2016

Both these houses are listed for sale in the Vancouver neighbourhood of Point Grey. The old home on the left is priced at nearly $2.4M, the brand new one on the right for $4.3M.

Clinical Practice Guidelines

Table C.3: Summary of CPGs and recommendation reports

Study	Method	Recommendations
Wittens 2015[12] European Society for Vascular Surgery (ESVS)	Systematic literature search up to Jan 2013 Grading: using the European Society of Cardiology grading system (level of evidence A, B, C, and classes of recommendation I, II< and III) CPGs developed by ESVS, IUP made comments on all recommendations	For the treatment of GSV reflux in patients with symptoms and signs of chronic venous disease: • EVTA techniques are recommended in preference to surgery (Level A) • EVTA techniques are recommended in preference to FS (Level A) For the treatment of SSV reflux in patients with symptoms and signs of chronic venous disease: • EVTA should be considered (Level B)
O'Donnell et al. 2014[23] Society of Vascular Surgery and American Venous Forum	Guidelines developed by building on existing guidelines with a complementary literature search Quality of evidence and strength of recommendations were scored according to GRADE system	For superficial venous reflux and active venous leg ulcer: • suggest ablation of the incompetent veins in addition to standard compressive therapy to improve ulcer healing (GRADE 2, Level of evidence C) • recommend ablation of the incompetent veins in addition to standard compressive therapy to prevent recurrence (GRADE 1, Level of evidence B) For superficial venous reflux and healed venous leg ulcer: • recommend ablation of the incompetent veins in addition to standard compressive therapy to prevent recurrence (GRADE 1, Level of evidence C) For superficial venous reflux with skin changes at risk for venous leg ulcer: • suggest ablation of the incompetent superficial veins in addition to standard compressive therapy to prevent ulceration (GRADE 1, Level of evidence C) For combined superficial and perforator venous reflux with or without deep venous reflux and active venous leg ulcer: • suggest ablation of both the incompetent superficial veins and perforator veins in addition to standard compressive therapy to aid in ulcer healing and to prevent recurrence (GRADE 2, Level of evidence C) For combined superficial and perforator venous reflux with or without deep venous disease and skin changes at risk for venous leg ulcer or healed venous ulcer: • suggest ablation of the incompetent superficial veins to prevent the development or recurrence of a venous leg ulcer (GRADE 2, Level of evidence C) For pathologic perforator venous reflux in the absence of superficial venous disease, with or without deep venous reflux, and a healed or active venous ulcer: • suggest ablation of the "pathologic" perforating veins in addition to standard compression therapy to aid in venous ulcer healing and to prevent recurrence (GRADE 2, Level of evidence C)

Summary

- **EVA** is safe, effective & cheaper with shorter patient recovery time
- **Standard of care** for addressing superficial venous reflux
- Role still exists for private pay in cosmetic patients

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EVA Ablation REBUTTAL: for PUBLIC

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Role for vein stripping

EndoVenous Ablation

- EVA is the gold standard for addressing venous reflux for both patients & HCPs

- The question that I challenge you with:

Would you refer/recommend/inform patients to centers that offer public RFA?