

***For the treatment of varicose  
veins, do you have a preference  
for efficiency or cost-  
effectiveness?***

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CONTROVERSIES ET ACTUALITES EN CHIRURGIE VASCULAIRE  
CONTROVERSIES & UPDATES  
IN VASCULAR SURGERY  
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# Disclosures

- Innotech
- Servier
- Vascular Insights
- Thuasne
- Kreussler

# Can you answer these questions ?

- Do you really have robust criteria of efficiency ?
- Do you treat all VVs the same way ?
- Do you compute the cost-effectiveness of your treatments ?
- Are all techniques available in all countries ?
- Are costs the same everywhere ?
- Why aren't all doctors using a unique method ?
- Why aren't all health authorities recommending/reimbursing the same technique ?

# A choice of treatments

- **Surgery** (historical high ligation and stripping, or mini invasive like ASVAL and CHIVA)
- **Endovenous thermal ablation**, wether with Laser (with an increased choice of wavelengths and fiber tips), Radio-Frequency (new devices too) and steam.
- **Endovenous Chemical ablation** under ultrasound guidance (AKA: U-S guided sclerotherapy with foam (USFGS))
- **Pharmaco mechanical ablation MOCA** (Clarivein®)
- Saphenon ® “*Super-glueing*”
- Others: LAFOS, V-Clip, .....

# A choice of prices !



*"Your health is just fine...but I can not say the same for your wallet..."*

# Which criteria ?

- **Efficacy** = better outcome = improvement of status
- **Side effects, complications and comfort of procedure**
- Recurrences after Rx: Short and Long term F/U
- **Cost of initial procedure (unique or several)**
- **Cost of re-do Rx**
- **Cost of « maintenance Rx »**

# To evaluate outcomes :

- Patient reported outcomes ★★★
  - Health related Quality of life : generic/specific
  - Visual Analog Scales evaluation of symptoms, cosmetic improvement, post-op comfort, etc ..
  - Recommendation to friends
- Physician reported outcomes: VCSS
- External audit, possibly on photos
- Duplex US based and other instrumental outcomes:
  - Reflux
  - Diameter
  - VFI, VRT (plethysmography)

# Comfort of procedure

- Anesthesia
  - None (foam, Clarivein, Sapheon)
  - Local (EV Thermal, Muller, Pinstrip., Asval, Chiva)
  - General (surgery)
- Outpatient Vs Hospital procedure
- Post op care (wound dressing, compression, ...)
- Discomfort
- Pain, tenderness, swelling, bruising, ...



# Hospital stay ?

- Outpatient procedure almost always/everywhere
- Except old fashion surgery

## Days off, sick leave ???

- **Historical surgery meant 3-4 weeks off !**
- **Modern surgery variable**
  - **Muller, ASVAL, CHIVA: zero to 3 days**
  - **Pin stripping: 1 week ?**
- **Endovenous thermal ablation: from zero to 3 days**
- **U-S Guided foam sclero : immediately back to usual work**

# Side effects, complications

- **Death** (isolated reports, general anesthesia, cryostripping, ...)
- **Allergy** (very rare, all techniques)
- **DVT, PE** (very rare, all methods, similar incidence)
- **Sepsis, lymphocele** (rare, surgery)
- **Skin burn, peripheral nerve damage** (rare, thermal ablation)
- **Visual disturbances** (uncommon, foam sclerotherapy)
- **TIA, stroke** (isolated reports, foam sclerotherapy)
- **Residual discoloration** (rare, all methods)

# Recommendation to friends

- The value of this criterion has not been validated for outcome evaluation.
- However, it provides word of mouth, and increases the number of patients.....



# Can we evaluate costs ?

- **Initial costs**
  - Doctor's fees
  - Room and equipment rental, disposable material, personnel, compression garment...
- **Additional costs**: off work days (society/patient)
- **Re-do costs** in case of recurrence
- **Treatment of complications**/side effects
- **Maintainance costs** (e.g. iterative sclerotherapy)
- **TOTAL COST** minus REIMBURSEMENT for patients
- **Life-long Vs immediate cost ?**

# Cost effectiveness analysis.

- A new trend for health authorities
- A stimulus for research  
and publication
- A scarecrow for physicians.

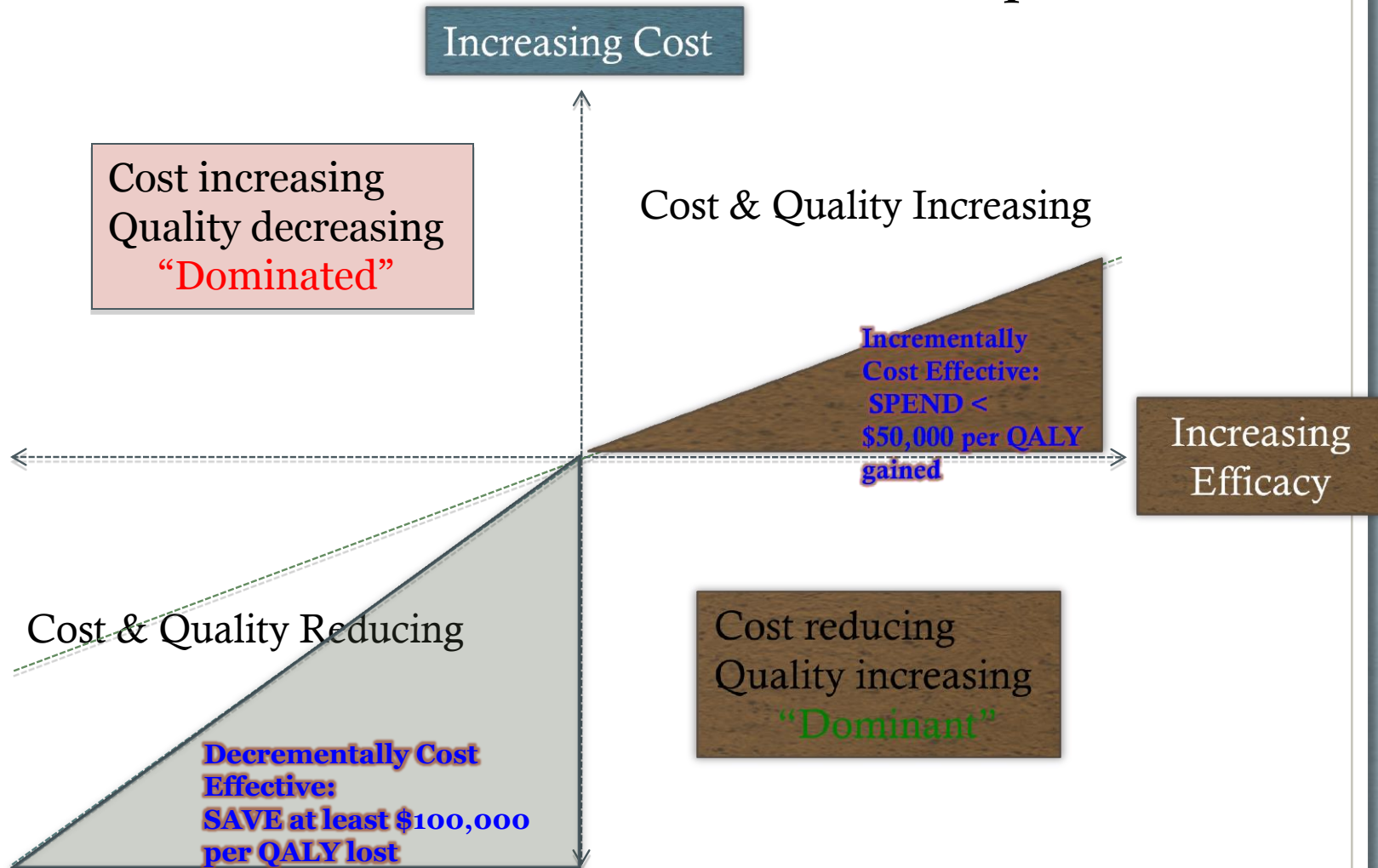


Cost increasing, quality decreasing: LOSER; Cost reducing, quality increasing: WINNER

Cost increasing, quality increasing: **Trade-off (Willingness To Pay)**

Cost reducing, quality reducing: **Trade-off (Willingness To Accept)**

$$\text{WTA/WTP} > 1$$



Cost effectiveness

## Results of cost-benefit analysis for some medical procedures

Procedure	Cost per QALY (£)
Cholesterol testing and diet therapy	220
Advice to stop smoking from patient's own doctor	270
Hip replacement for arthritis	1 180
Kidney transplant	4 710
Breast cancer screening	5 780
Cholesterol testing and drug therapy if indicated (ages 25-39)	14 150
Neurosurgery for malignant brain tumours	107 780

# The REACTIV Trial

	Conservative	Surgery	Mean Difference
Mean NHS Cost	£345	£733	£389
SF-6D	1.42	1.50	0.083
ICER (at 2 yrs)			<b>£4682/QALY</b>

- 246 patients large vv and saphenous reflux randomized to
  - Conservative measures (n = 122)
  - Saphenous stripping / phlebectomy (n = 124)

• **Below NHS WTP threshold of £20,000 per QALY**

Cost-effectiveness analysis of surgery versus conservative treatment for uncomplicated varicose veins in a randomized clinical trial.

*Ratcliffe J, et al Br J Surg. 2006 Feb;93(2):182-6*



# Applied QALY:

*Cost-effectiveness of traditional and endovenous treatments for varicose veins. Gohel MS, et al Br J Surg. 2010 Dec;97(12):1815-23*

A Markov model was constructed to compare costs and quality-adjusted life years (QALYs) for treatment of GSV reflux (*Markov models assume that a patient is always in one of a finite number of discrete health states, called Markov states*)

# Gohel et al. Contd.

- Incremental cost-effectiveness ratio (ICER) for
  - UGFS (versus conservative care) = £ 1366
  - EVLA (versus UGFS) = £ 5799
  - RFA (versus EVLA) = £ 17 350
  - Day case Surgery (versus RFA) = £ 19 012per QALY respectively.

Other strategies were not cost-effective using the NHS threshold of £20 000 per QALY.

# Are there other reasons to favor a treatment apart from efficacy and cost-effectiveness ?

- Personal preferences/skills
- Search for an increased income
  - Better fees
  - Shorter operating time
  - Reduction of associated costs
- Word of mouth / demand of patients
- Financial arrangements with industry

# Do we have a full choice ?

- Medical reasons
  - Most Rx give an acceptable outcome (Rasmussen) but very different comfort
  - It is likely that diameter changes the outcome (e.g. <7 : foam)
- Economic reasons
  - Are all methods available everywhere ?
  - Are all methods affordable everywhere ?
  - Will we choose the best even if we lose money ?
  - Will patients pay in countries with social security ?
- Other reasons
  - Are all methods known/taught everywhere ?

# The consumer's view

- CEA/EBM information may help increase consumers' confidence with decision making and knowledge of treatment options.
- However, deeply routed in consumers are:
  - More is better
  - Newer is better
  - Less invasive is better
  - You get what you pay for (and who is paying)

# Let's take two examples

- France
- USA

# France

- USFFS is priced about 40 €/session, (reimbursed 70-100% according to insurance plans). Actually charged more (50-100 €). UGS of GSV and SSV price “expected to raise”.
- # of UGS procedures increased 2008-09 (= ↑ 1.3 M€)
- But from 2008 to 09, estimated to have lead to a 2.5 M€ in operation fees (↓ 7 to 9 % surg. procedures)
- with a total reduction of expenses 12 M€ (fees, costs, return to work) by replacing strippings
- UGS is done by phlebologists/vascular medicine physicians, few surgeons interested except per-operative

# France

- EV Laser and RF not reimbursed and thus not widely practiced. RF rebate contemplated, not yet decided. EVLA not considered for rebate as of today.
- Surgeons do strippings, with downward trend in # of cases and potential professional conflict with phlebologists !
- Shy return of little invasive extrafascial surgical procedures like ASVAL, Muller, CHIVA II (preserving saphenous trunks)



# USA

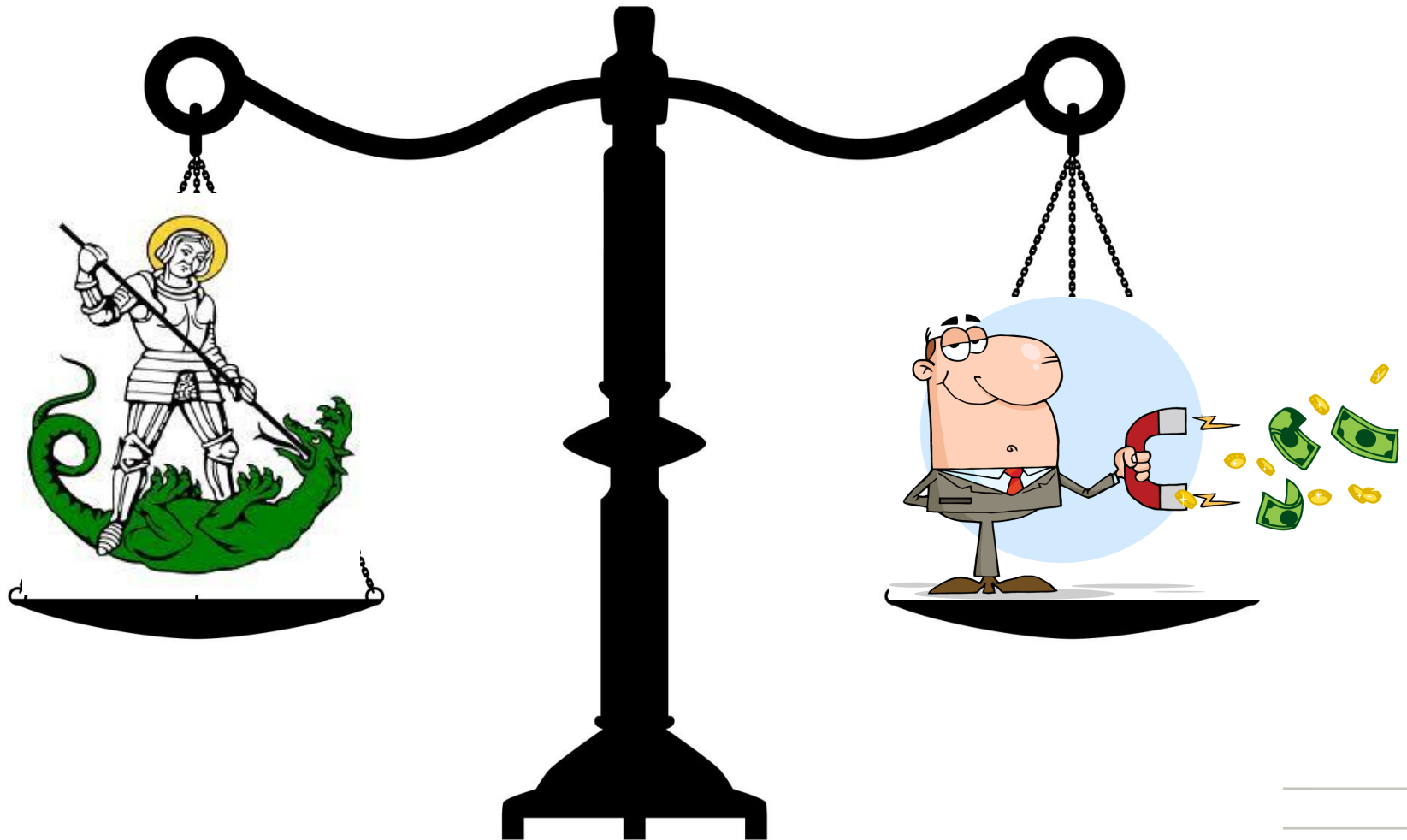
- Stripping is being done less and less - mainly in rural areas and smaller hospitals where the endovenous approach has not yet penetrated
  - Reimbursement ~500 \$
- Endovenous ablation procedures increasing in #
  - Insurance push back- stricter criteria, requirements for conservative Rx first
  - Reimbursement trending down but still significant  
(3 000  $\searrow$  1 400 \$)
- USGFS: no specific CPT codes
  - Not reimbursed well
  - Insurance often considers experimental

# 2012 Total Hospital and Physician Cost: Angioplasty



(\$ USD)

Will we choose the best  
even if we (or the system) lose  
money ?



I don't have  
the answers !



But, personally, I foam them all !

