

# Porque utilizo o stent primariamente no território fêmoro-poplíteo

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Cirurgia Vascular

XXXI Encontro de Angiologia e de Cirurgia Vascular

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Hospital Felício Rocho – Belo Horizonte - MG  
Cirurgia Vascular



**SBACV-MG**

SOCIEDADE BRASILEIRA DE ANGIOLOGIA  
E CIRURGIA VASCULAR

Regional Minas Gerais

# Declaração de conflito de interesses

- Oferece treinamentos pela Medtronic e Abbott
- Pesquisa clínica patrocinada pela Bayer

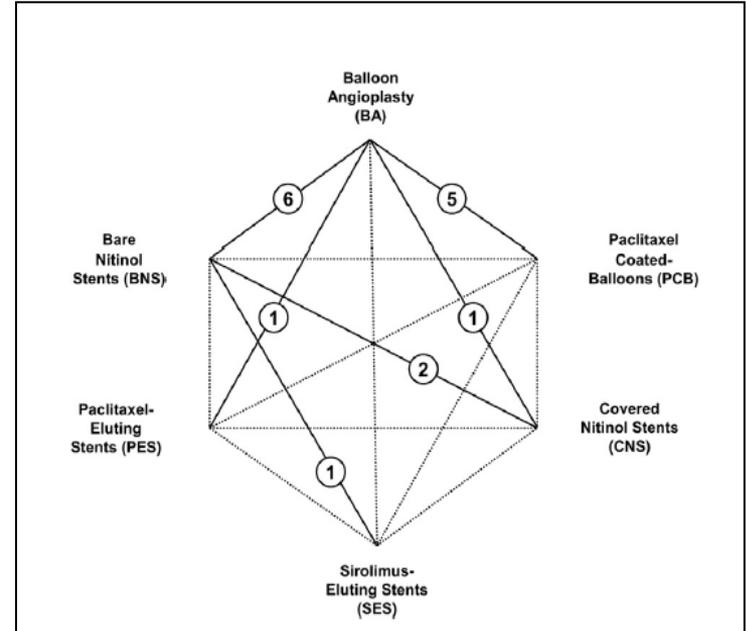


# Comparaç o indireta entre tratamentos Segmento f moro-popl teo

## Bayesian network meta-analysis of nitinol stents, covered stents, drug-eluting stents, and drug-coated balloons in the femoropopliteal artery

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Tarun Sabharwal, FRCR, EBIR,<sup>a</sup> and Peter Taylor, MA, MChir, FRCS,<sup>d</sup> *London and Cambridge, United Kingdom; and Rion, Greece*

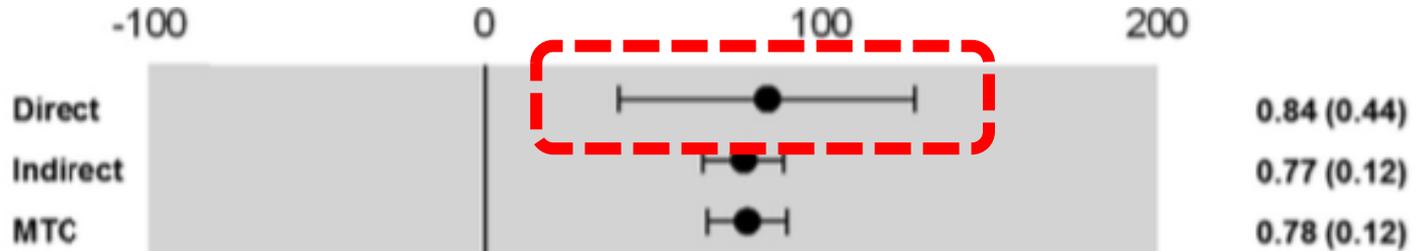
*J Vasc Surg* 2014;59:1123-33



Katsanos et al.  
J Vasc Surg 2014: 1123

**Vascular restenosis**

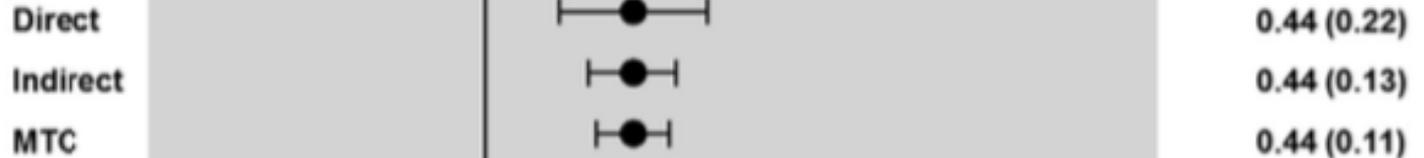
BA versus BNS



**Bare Nitinol Stent**

**Balloon Angioplasty**

BA versus PCB



-1 0

1 2

Favours comparison

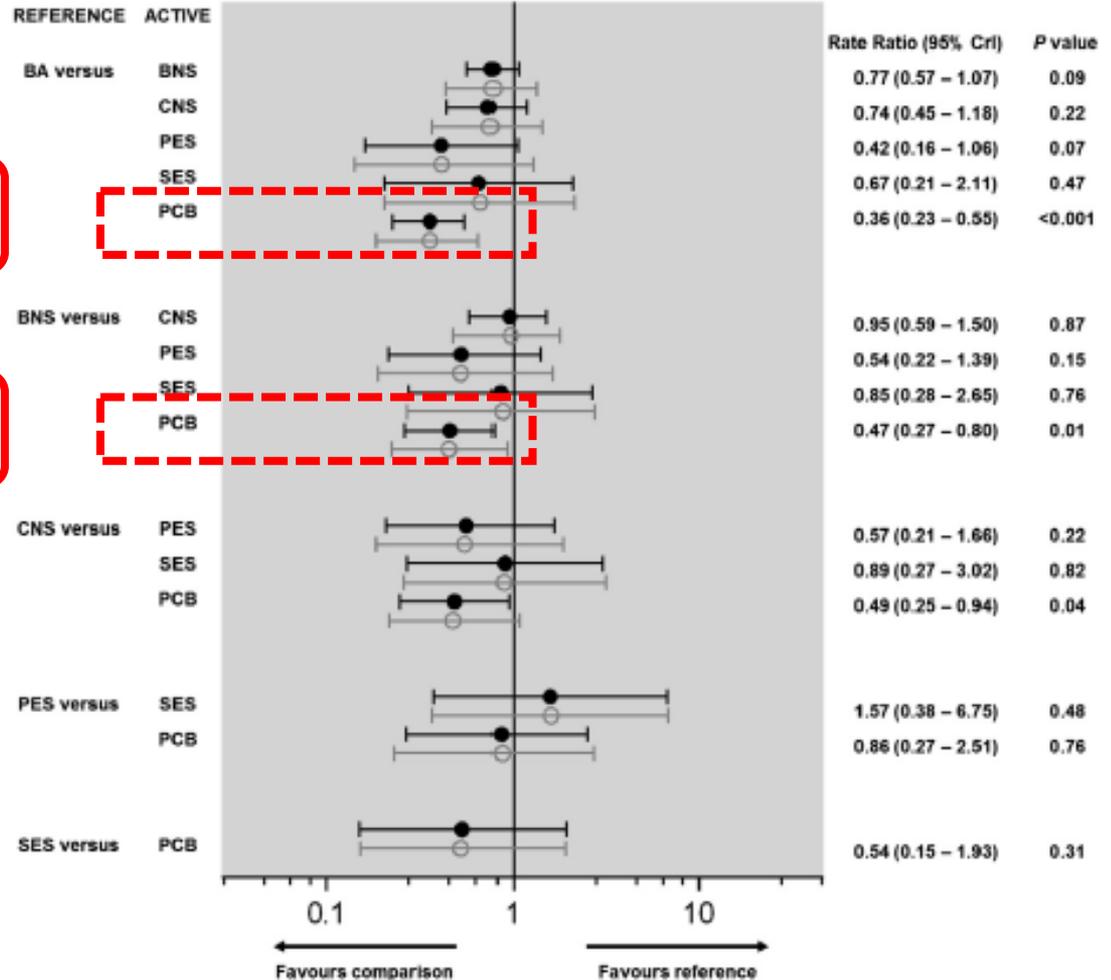
Favours reference

Katsanos et al.  
 J Vasc Surg 2014: 1123

Balão farmacológico X Angioplastia

Balão farmacológico X Stent Nitinol

Target Lesion Revascularization  
 (Events per 100 person-years / Random Effects)



# Segmento fêmoro-poplíteo

1. Para lesões curtas, o uso do balão farmacológico tem resultado superior ao de outras terapias

# Evaluation and Treatment of Patients With Lower Extremity Peripheral Artery Disease



## Consensus Definitions From Peripheral Academic Research Consortium (PARC)

Manesh R. Patel, MD,\* Michael S. Conte, MD,† Donald E. Cutlip, MD,‡§ Nabil Dib, MD,|| Patrick Geraghty, MD,¶ William Gray, MD,\*\*\* William R. Hiatt, MD,†† Mami Ho, MD, PhD,‡‡ Koji Ikeda, PhD,§§ Fumiaki Ikeno, MD,|||| Michael R. Jaff, DO,¶¶ W. Schuyler Jones, MD,\* Masayuki Kawahara, MD,‡‡ Robert A. Lookstein, MD,## Roxana Mehran, MD,# ## Sanjay Misra, MD,\*\*\* Lars Norgren, MD,††† Jeffrey W. Olin, MD,‡‡ Thomas J. Povsic, MD, PhD,\* Kenneth Rosenfield, MD,††† John Rundback, MD,§§§ Fadi Shamoun, MD,||||| James Tchong, MD,\* Thomas T. Tsai, MD,¶¶¶ Yuka Suzuki, PhD,### Pascal Vranckx, MD,\*\*\*\* Bret N. Wiechmann, MD,†††† Christopher J. White, MD,†††† Hiroyoshi Yokoi, MD,§§§§ Mitchell W. Krucoff, MD\*

### Lesion length

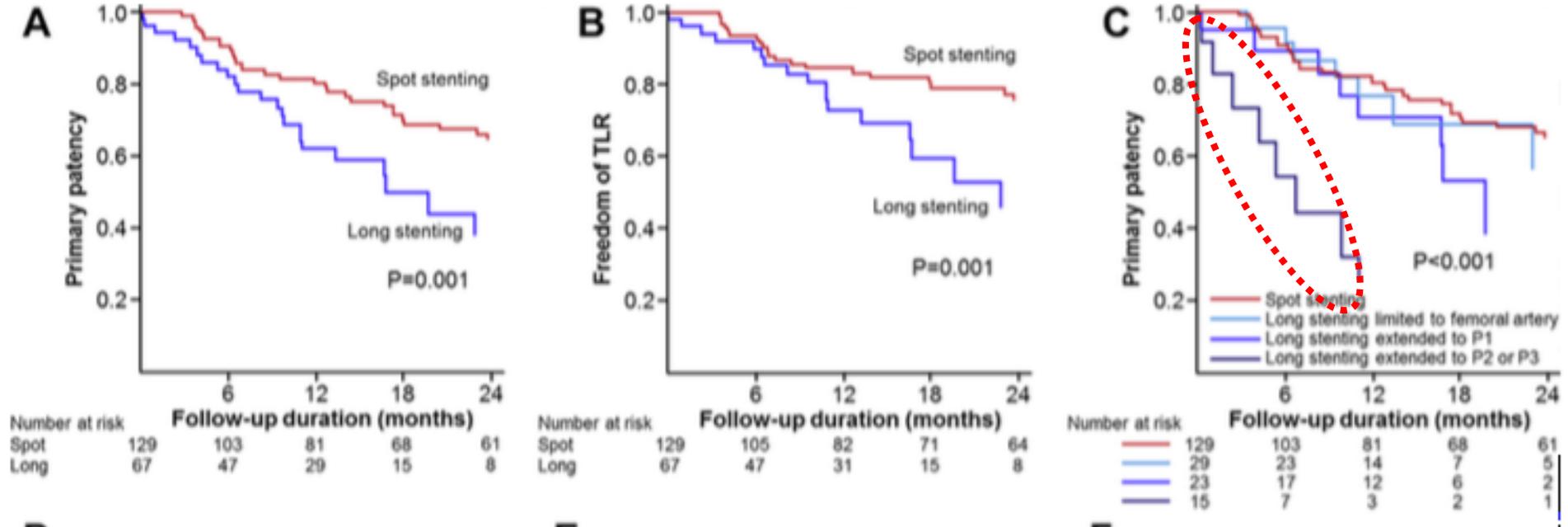
- Focal:  $\leq 1$  cm
- Short:  $> 1$  and  $< 5$
- Intermediate:  $\geq 5$  and  $< 15$  cm

• **Long:  $\geq 15$  cm**

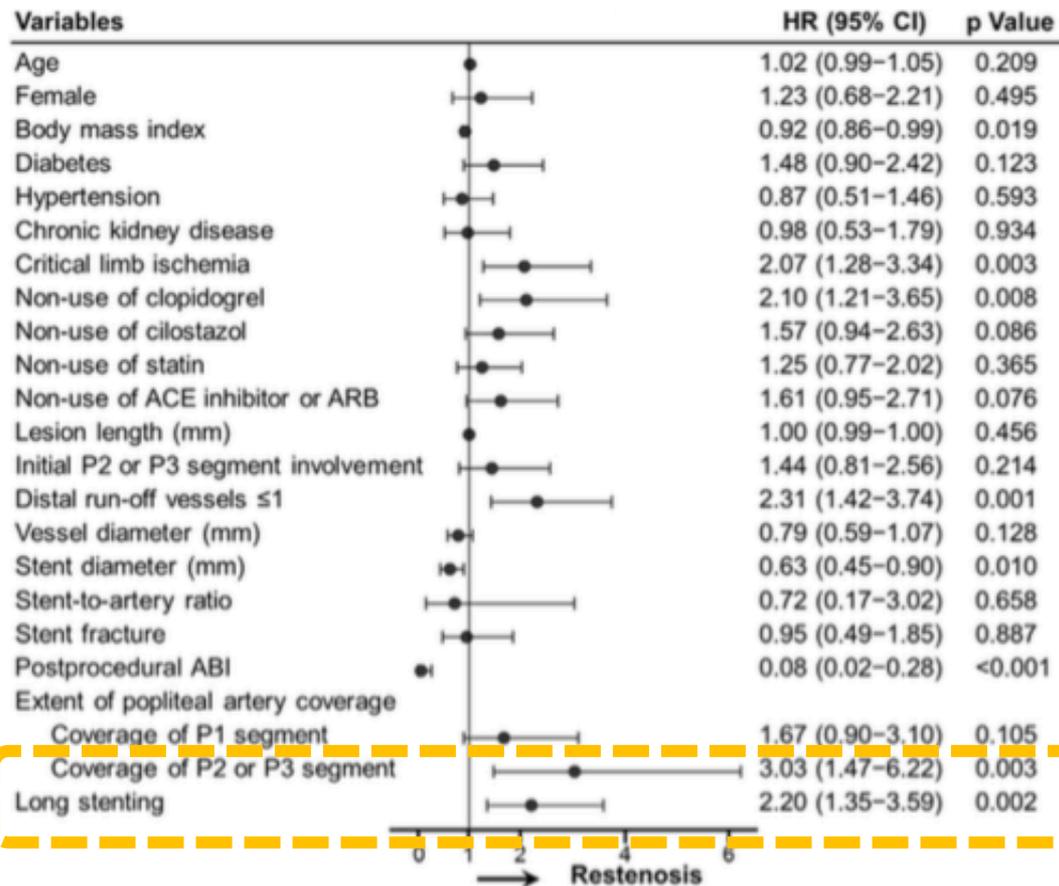
### TASC II C - D



# Tendência atual para "spot stenting" ao invés de cobrir toda a lesão



**FIGURE 3** Univariate Analysis of Risk Factors for Restenosis



Análise univariada dos fatores de risco para reestenose

**TABLE 4** Multivariate Analysis of the Predictors of Restenosis

	Multivariable Adjusted*				M
	Model 1		Model 2		
	HR	p Value	HR	p Value	
Body mass index	0.95	0.150	0.95	0.192	—
Critical limb ischemia	1.25	0.463	1.20	0.550	—
Nonuse of clopidogrel	3.25	0.001	2.90	0.013	—
Nonuse of cilostazol	2.23	0.007	2.12	0.013	—
Nonuse of ACE inhibitor or ARB	1.73	0.084	1.71	0.090	—
Stent diameter, mm	0.64	0.044	0.69	0.105	—
Distal run-off vessels $\leq 1$	1.85	0.039	1.88	0.040	—
Post-procedural ABI	0.06	<0.001	0.07	<0.001	—
Stenting strategies					
Spot stenting (reference)	1.00		1.00		1.00
Long stenting	1.97	0.023	—		3.26
Long stenting limited to femoral artery	—		1.79	0.133	—
Long stenting extended to P1	—		1.64	0.228	—
Long stenting extended to P2 or P3	—		3.37	0.008	—

Cobrir toda a extensão da recanalização é desnecessário!

Este dado é confirmado pela literatura:

- Boufi et al. J Vasc Surg 2010;52:12121
- Siablis et al. Cardiovasc Intervent Radiol 2012;35:483
- Treiman GS et al. J Vasc Surg 2006;43:513

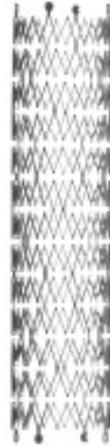
# Segmento fêmoro-poplíteo

1. Para lesões curtas, o uso do balão farmacológico tem resultado superior ao de outras terapias
2. É desnecessário cobrir toda a extensão do segmento recanalizado com stents
3. Uso de stents de nitinol convencionais em artéria poplíteia P2 e P3 aumenta a taxa de reestenose

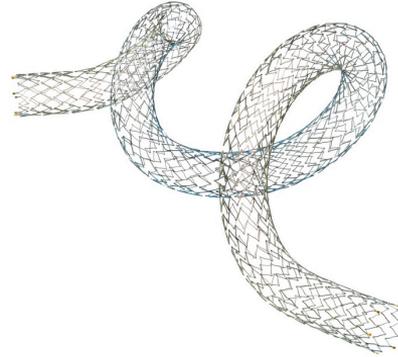
# Stents fêmoro-poplíteos



1ª GERAÇÃO  
Wallstent



2ª GERAÇÃO  
Auto-expansíveis



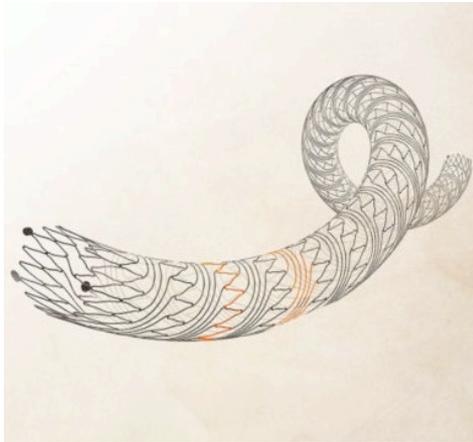
3ª GERAÇÃO  
Auto-expansíveis  
helicoidais



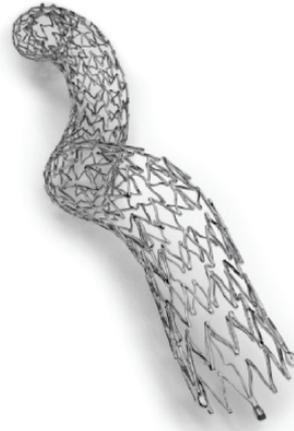
4ª GERAÇÃO  
Nitinol entrelaçado  
Vascular Mimetic Implant

# Stents Vasculares Miméticos

*Biomimetics stents*  
*4th generation nitinol stents*



SmartFlex CORDIS



Biomimics 3D  
(não disponível no Brasil)



Supera ABBOTT

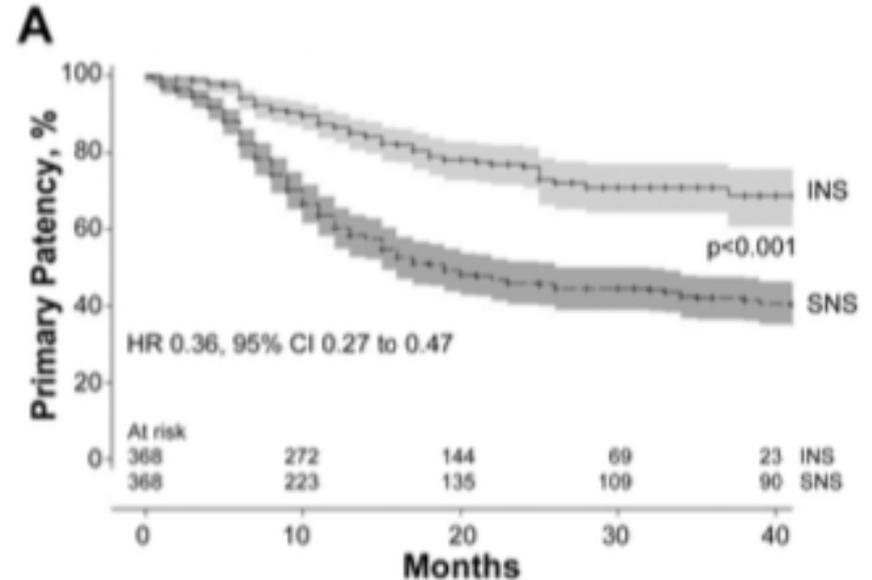
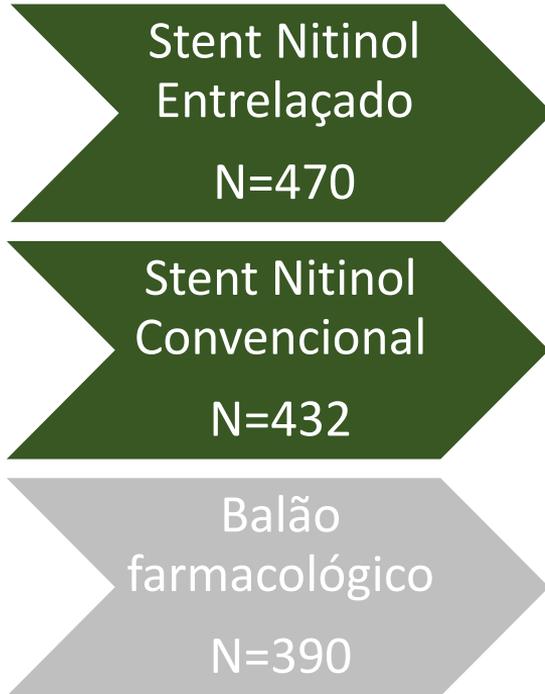
# Supera 500

Werner et al. EuroIntervention 2014;10:861

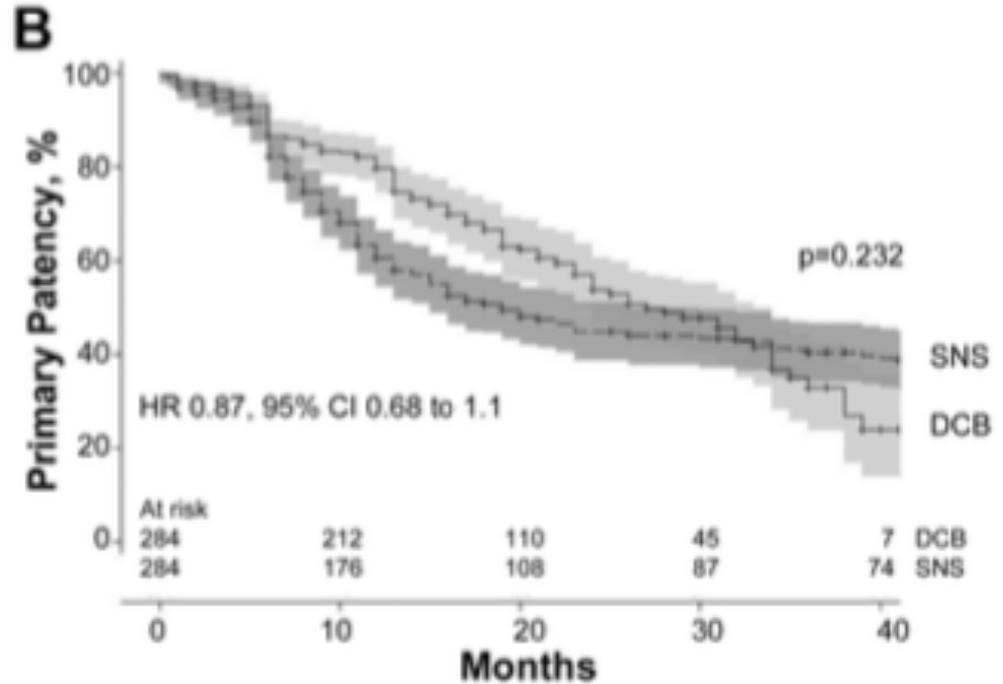
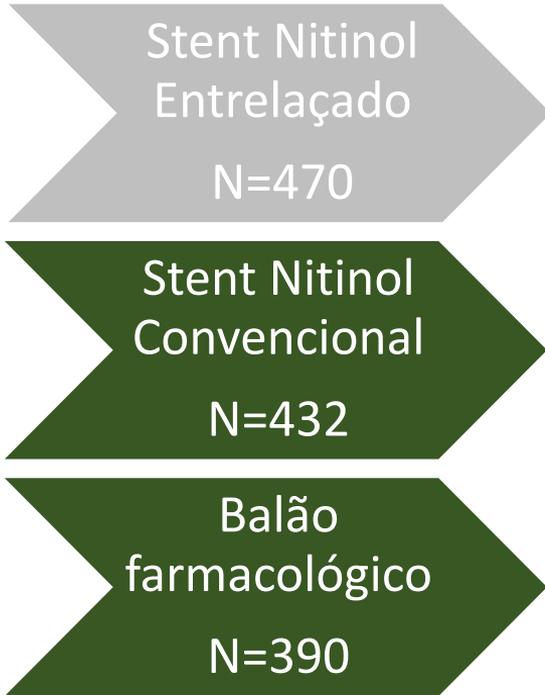
- 492 membros
- 21 meses
- 52,6% de oclusões
- Patência primária:
  - 83,3% - 12 meses
  - 72,8% - 24 meses



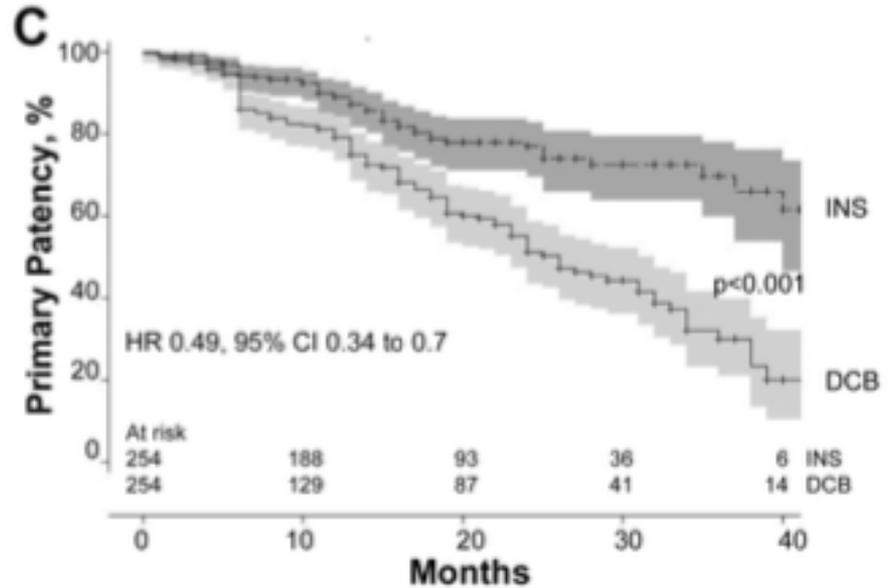
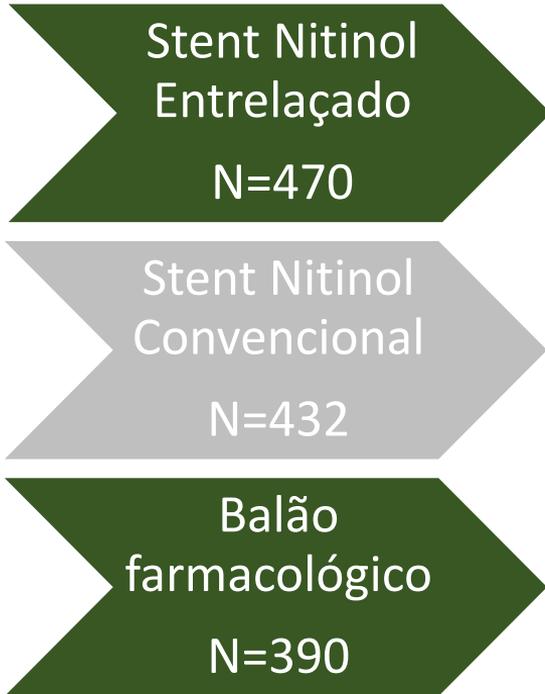
# Steiner et al. Comparison of STANDARD and INTERWOVEN and DCB J Endovasc Ther 2016; 23(2):247



Steiner et al. Comparison of STANDARD and INTERWOVEN and DCB.  
J Endovasc Ther 2016; 23(2):247



Steiner et al. Comparison of STANDARD and INTERWOVEN and DBC.  
J Endovasc Ther 2016; 23(2):247



# Análise de custo-eficácia

Original article

## **Cost-effectiveness analysis of enhancements to angioplasty for infrainguinal arterial disease**

**B. C. Kearns, J. A. Michaels, M. D. Stevenson and S. M. Thomas**

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*Br J Surg 2013;100:1180-1188*



Hospital Felício Rocho  
Cirurgia Vascular

# Análise de custo-eficácia

Kearns et al. Br J Surg 2013

**Table 5** Cost-effectiveness analysis results by patient population

	IC		CLI	
	Costs (£)	QALYs	Costs (£)	QALYs
Drug-coated balloons	12 668	6.120	49 890	3.402
PTA with bail-out drug-eluting stents	13 032	6.081	52 335	3.297
PTA with bail-out bare metal stents	14 637	5.956	55 199	3.047
PTA, no bail-out stenting	14 787	5.931	56 539	2.988
PTA with primary bare metal stents	15 030	5.989	54 775	3.144
PTA with primary drug-eluting stents	15 692	5.993	55 012	3.157
Endovascular brachytherapy	15 891	5.984	55 928	3.134
Stent-graft	16 171	5.989	55 852	3.144
Cryoplasty	17 578	5.934	58 097	3.003

# Análise de custo-eficácia

Open Access

Research

## **BMJ Open Cost-effectiveness of superficial femoral artery endovascular interventions in the UK and Germany: a modelling study**

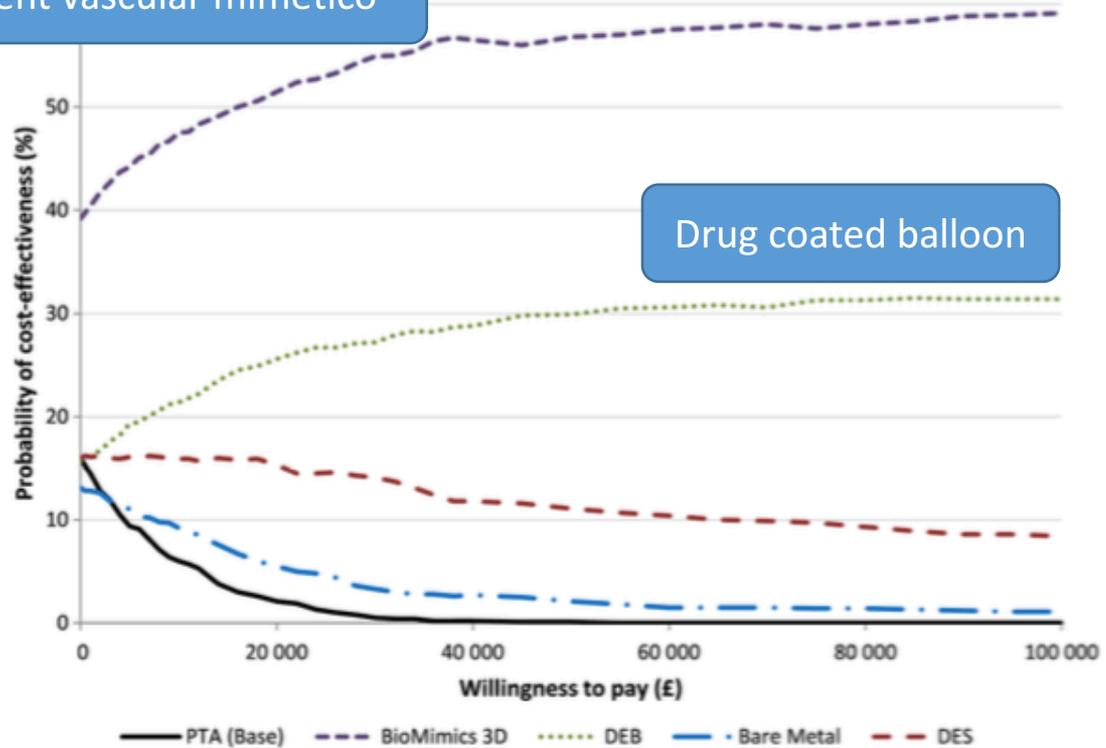
Benjamin C Kearns,<sup>1</sup> Steven M Thomas<sup>2</sup>

*BMJ Open 2017;7:e013460*



Kearns BC. Cost effectiveness of superficial femoral artery interventions. BMJ 2017

Stent vascular mimético



Drug coated balloon

**Figure 2** The probability that each of the interventions is cost-effective, for different willingness to pay values. DEB, drug-eluting balloon; DES, drug-eluting stent; QALYs, quality-adjusted life years.

# Head to head battle!

Stents biomiméticos

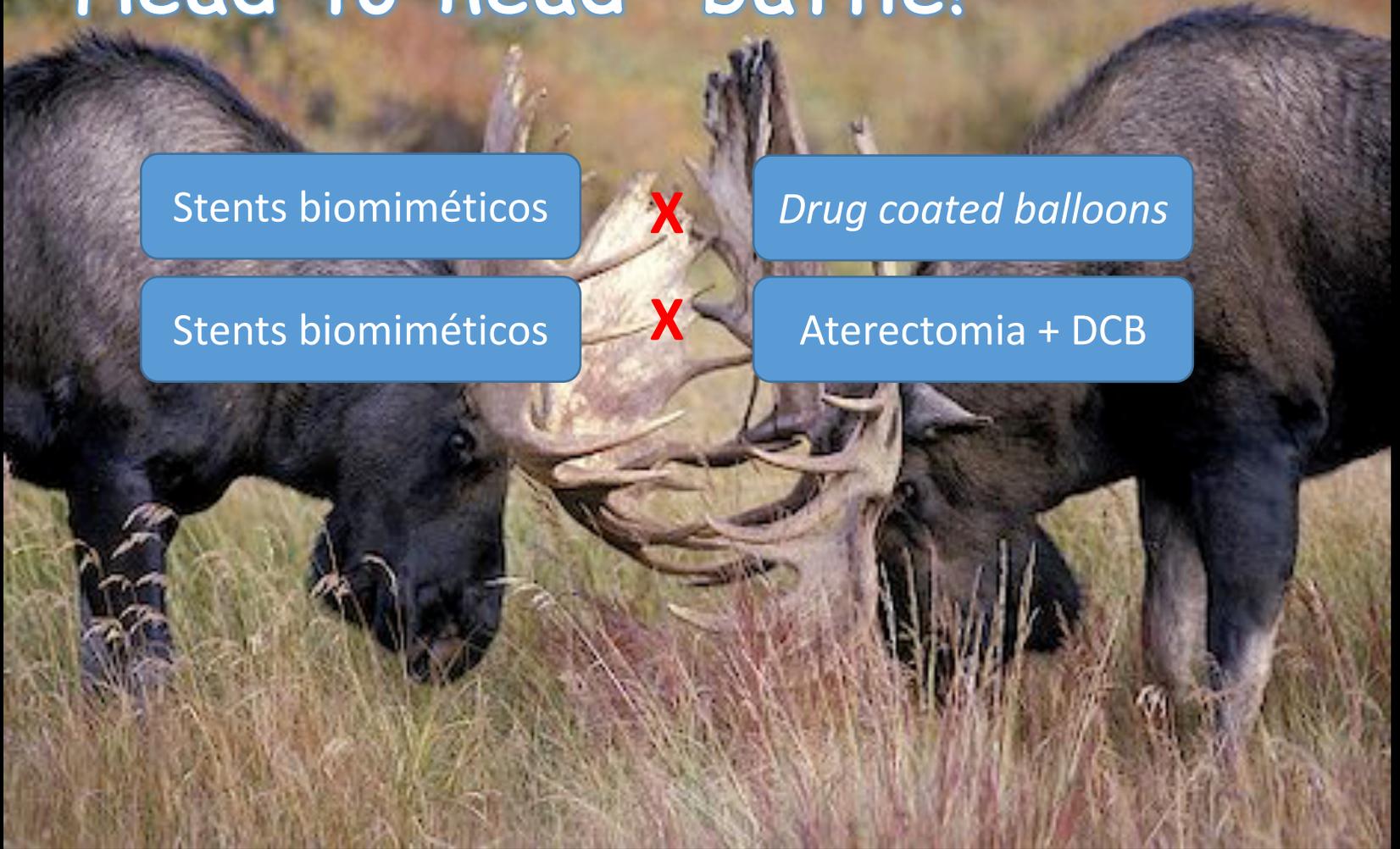
X

*Drug coated balloons*

Stents biomiméticos

X

Aterectomia + DCB



# Segmento fêmoro-poplíteo

1. Para lesões curtas, o uso do balão farmacológico tem resultado superior ao de outras terapias
2. É desnecessário cobrir toda a extensão do segmento recanalizado com stents
3. Uso de stents de nitinol convencionais em artéria poplíteia P2 e P3 aumenta a taxa de reestenose
4. Em lesões longas, os stents vasculares miméticos tem resultados superiores a outras terapias.

# CONCLUSÃO

Em qual situações usar primariamente o stent no segmento fêmoro-poplíteo:

- Estenoses ou oclusões longas > 15 cm
- Lesões calcificadas
- Em lesões curtas, quando não há disponibilidade de uso do balão farmacológico

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