

MEET 2015 - Nice

Carotid Occlusive Disease - Are we ready for the next breakthrough

STATE OF THE ART: PROMISING NEXT STEPS

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Disclosure

Nothing to disclose in regard
to this presentation

Different Pathologies

- Atherosclerosis
>90% of the pts.
- Dissection
- Trauma
- Inflammation



What we want to achieve ...

Prevention of stroke:

- asymptomatic ICA stenosis
- TIA

Treatment:

- asymptomatic ICA stenosis
- TIA
 - BMT stenosis <80%
 - CAS stenosis >80%
 - CEA stenosis > 80%

What we want to achieve ...

Treatment of stroke:

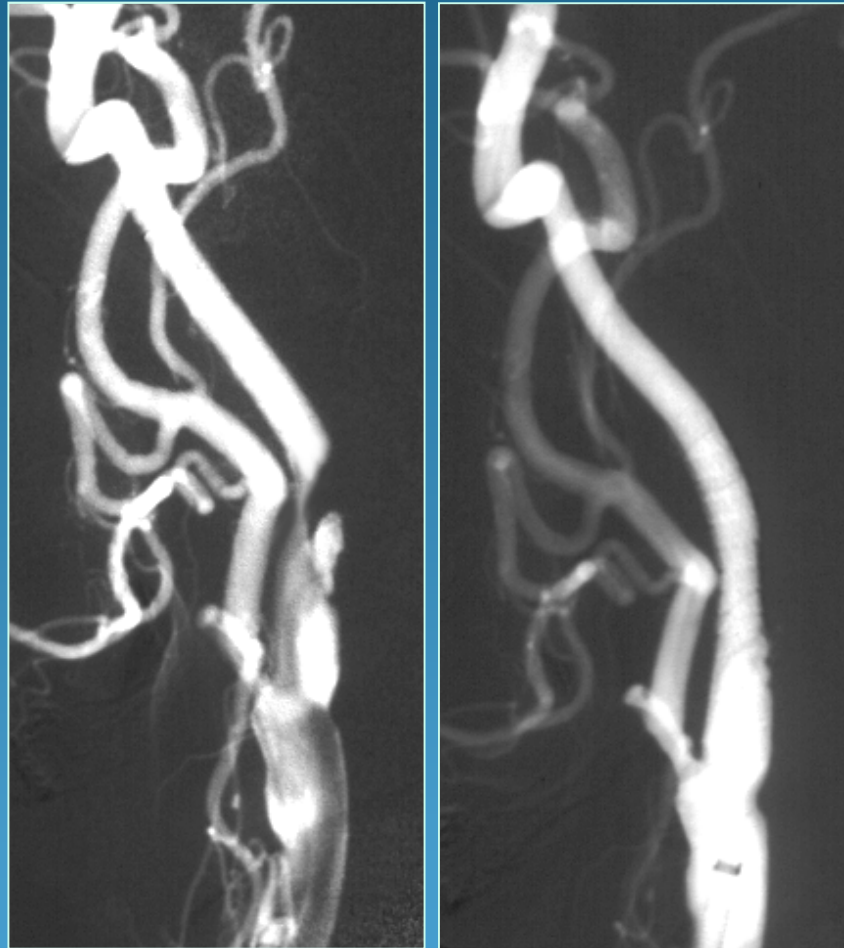
- acute phase
 - thrombectomy
 - thrombolysis
- delayed phase
 - CEA or CAS
- major stroke
 - conservative tx

Acute Stroke - Thrombectomy ICA



B.G. f-66 Aphasic and hemiplegic for 4 hrs

TIA - CAS immediately after Loading



P.N. m-71 TIA - Aphasic for 10min - 300 mg aspirin and
600 mg clopidogrel - CAS 7 hrs after symptom onset

TIA - CAS immediately after Loading

AK m-74 yrs

6 years after CEA right
carotid

minor stroke left hemisphere

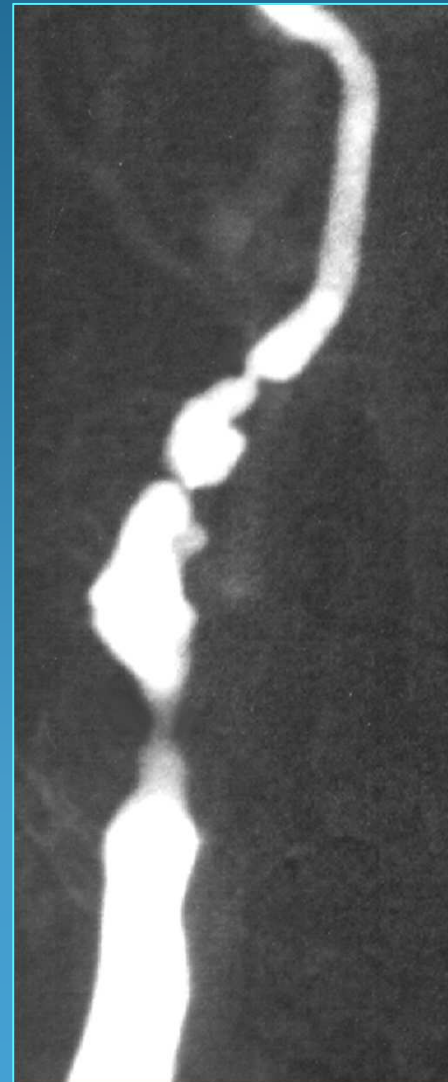
2x TIA right hemisphere

pulsating ear noise

left ICA occluded

right ECA occluded

right ICA several stenoses



Technique

CAS - Always with Cerebral Protection

When filter, when proximal balloon protection?

No high level evidence, but data from TCD and DW-MRI

CAS - Always with Cerebral Protection

TCD-HITS 100%

DW-MRI 29%

TIAs 8%

Stroke 3%

*own results: AJNR, 2001; 22-:1251-1259

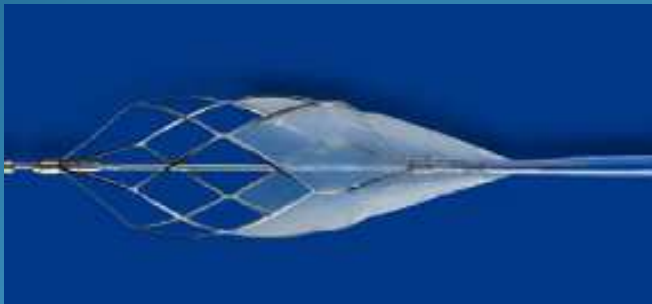
CAS - Always with Cerebral Protection

Filter, when

- asymptomatic patient
- little plaque burden
- no ICA kinks
- no additional distal disease

Filter Protection

- a selection of filters
- they are different
- be familiar with their behaviour



Disadvantages of Filter Protection

- crossing the lesion unprotected
- pore size $>100\ \mu$
- not always complete apposition
- retrieval may be difficult

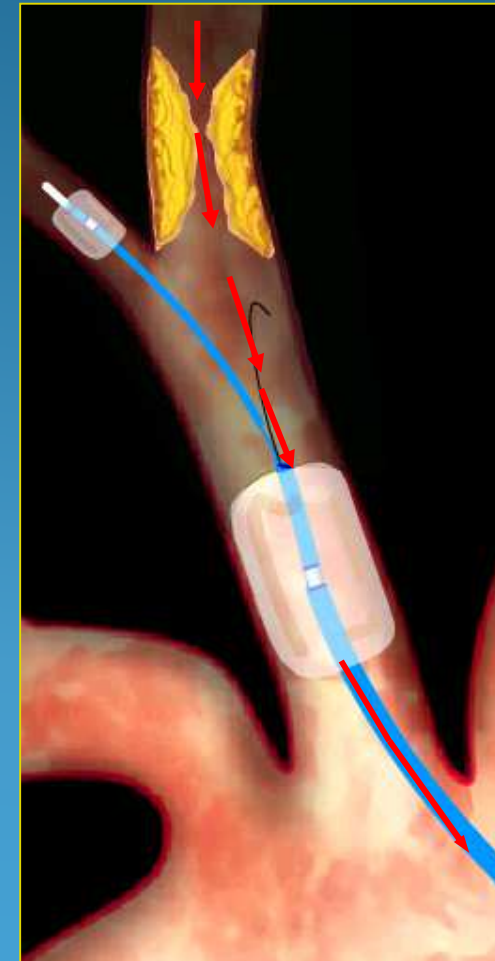


... but flow preserved during the intervention

Proximal Balloon Protection

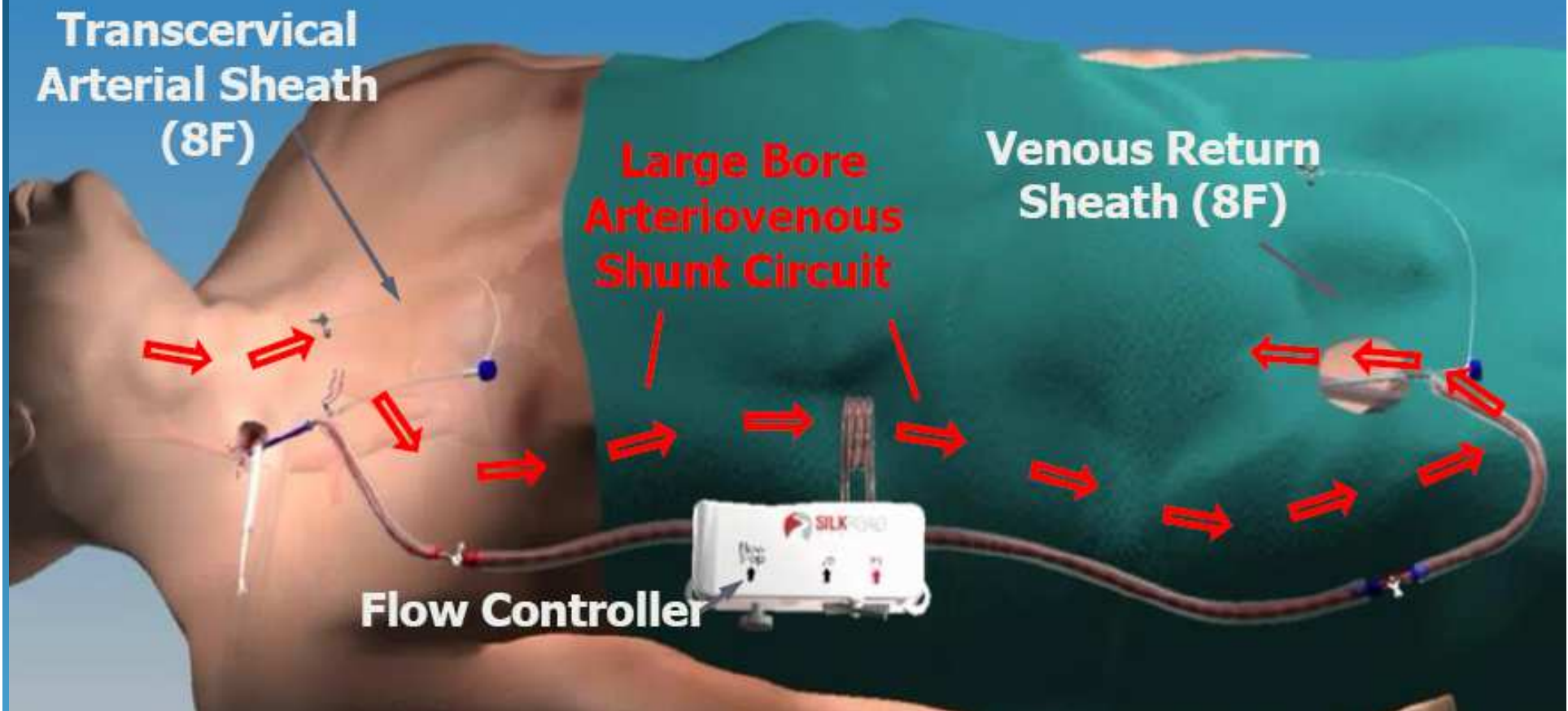
~~Flow Reversal NPS Gore~~

MO.MA



Proximal Balloon Protection

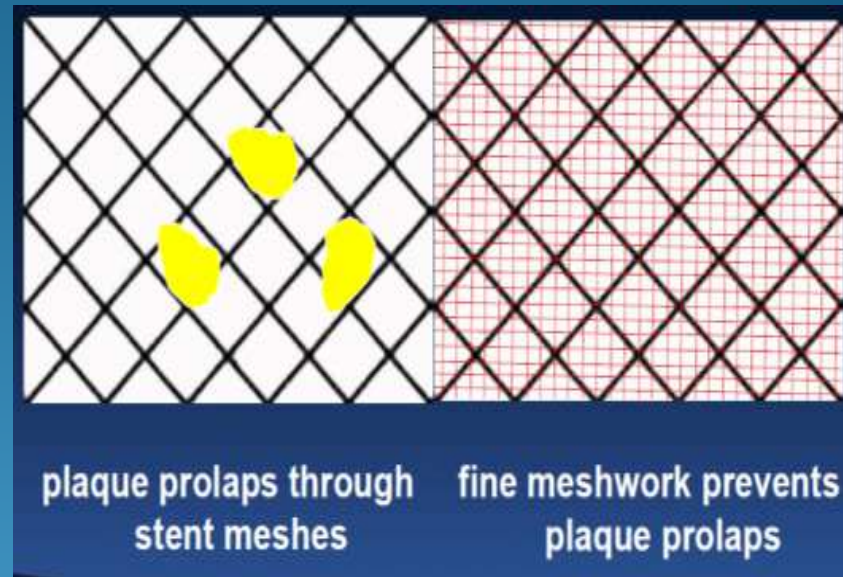
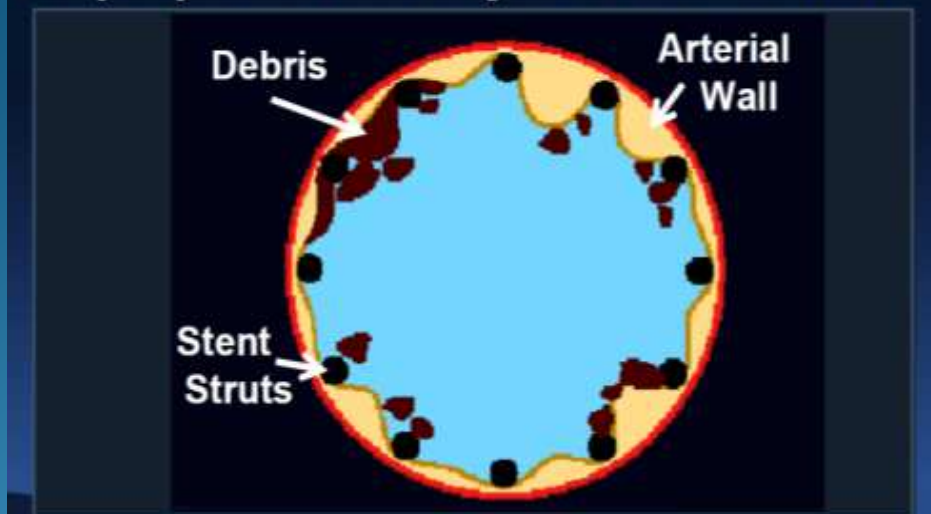
A „surgical“ flow reversal system: MICHI™



ROADSTER trial with the Silk Road Procedure; 2013

Mesh Covered Stent Technology

Plaque protrusion may lead to late events.



Hybrid Stent should prevent

- plaque prolaps
- late embolic events

Stents - What is new?

Hybrid Stents

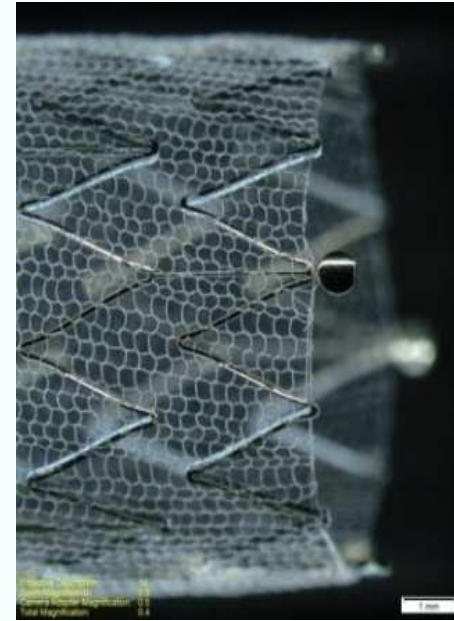
- 3 products
- trials still running

CGuard

Gore

Terumo

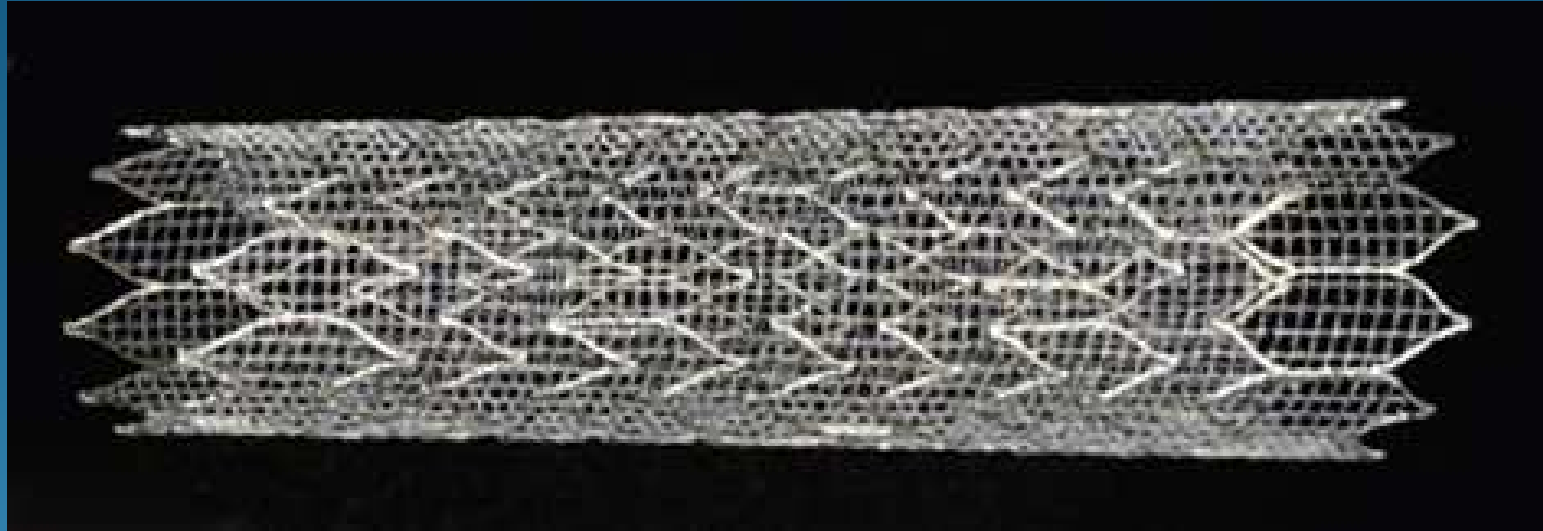
CGuard™ Carotid Embolic Protection with MicroNet™ by InspireMD



mesh size 150-190 μ



Gore Hybrid Stent



Open question:

Does more scaffolding stimulate intimal proliferation and influence the long term results?



Clinical Outcome

New Trials?

No major PRT running in symptomatic patients

SPACE-2 stopped due to slow enrolment - MAE <2%

CREST-2 planned

SEPTEMBER 2013

CREST-2: Guiding Treatments for Asymptomatic Carotid Disease

Examining stenting and endarterectomy in the context of intensive medical management.

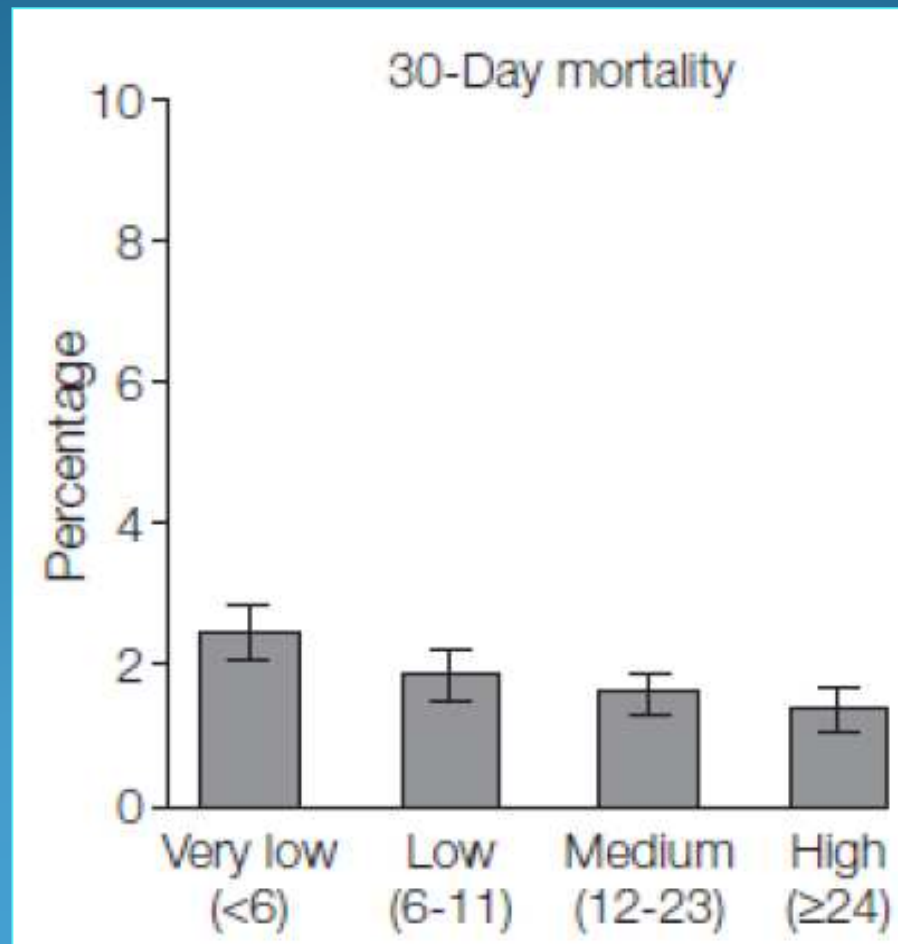
By [Brajesh K. Lal, MD](#); [James F. Meschia, MD](#); and [Thomas G. Brott, MD](#)

New Trials?

Trial name	Groups	Reference
SPACE-2	asymptomatic stenosis A: CEA+best medical vs. best medical B: CAS+ best medical vs. best medical	Reiff et al., 2014
ACST-2	asymptomatic stenosis CAS vs. CEA	Halliday et al., 2013
ACTI	asymptomatic stenosis CAS vs. CEA 3:1	
CREST-2	asymptomatic stenosis A: CEA+best medical vs. best medical B: CAS+ best medical vs. best medical	

CAS Operator Experience in Medicare Beneficiaries

N = 24,701



B.K. Nallamothu et al. JAMA 2011;28:1338-1343

What do the guidelines tell us?



- clear evidence for symptomatic stenoses $\geq 70\%$: CEA
- CAS alternative to CEA in patients with high surgical risk
- CAS alternative to CEA in centers with high volume and complication rate $< 6\%$
- strict selection in asymptomatic patients: stenosis $\geq 60\%$, complication rate of both methods $\leq 3\%$



- symptomatic stenosis $\geq 70\%$: CEA
- CAS equal alternative for CEA
- complication rate $\leq 6\%$ for both methods
- in elderly patients (> 75 years) CEA preferred to CAS
- unfavorable neck anatomy: CAS preferred to CEA
- strict selection in asymptomatic patients



Better with Stent!