ICCA STROKE 2019

WIST

How Neuroradiologists and Radiologists Learn Interventions

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ICCA STROKE 2019

WIST

DISCLOSURE STATEMENT OF FINANCIAL INTEREST

Within the past 12 months, I have had a financial interest with the organizations listed below.

AFFILIATION/FINANCIAL RELATIONSHIP	COMPANY
• Consulting Fees/Honoraria	• Gore • Terumo

Vascular Interventions

- See one
- Do one
- Teach one

It is a little bit more complex!

Organization of Accomplishment

reccommended - obligatory

<u>Different levels</u>

- Hospital department (SOP)
- National regulations
- European regulations

Organization of Accomplishment

Radiologist – 5 yrs.

- Interventions – 1 yr.
- Neuroradiologist – 3 yrs.
  - Interventions

    reccommended no. of interventions

What is included?

- Normal vascular anatomy
- Vascular pathology
- Indications - Contraindications
- Interventional techniques
- Devices
- Complications and their management

Vascular Access

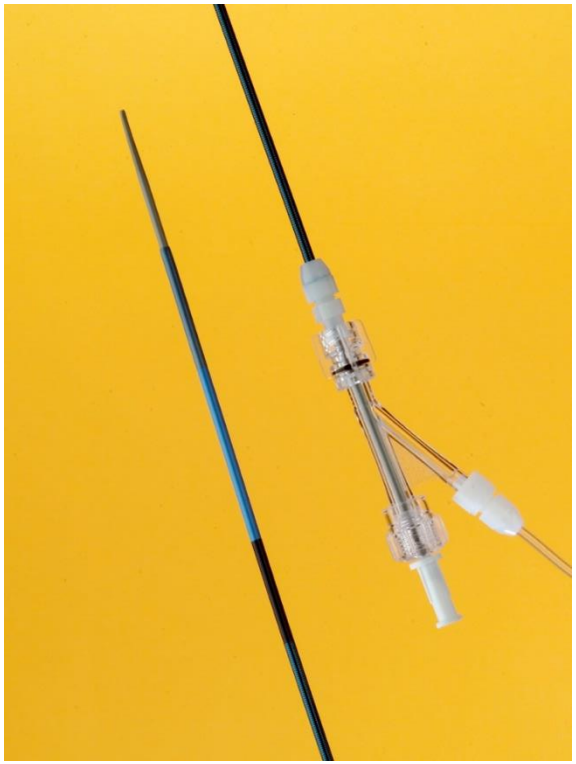
- Choice of access vessel
- Puncture technique
- US-guided puncture

Avoid bleeding, dissection, perforation.

Devices

Be familiar with types and function

Devices

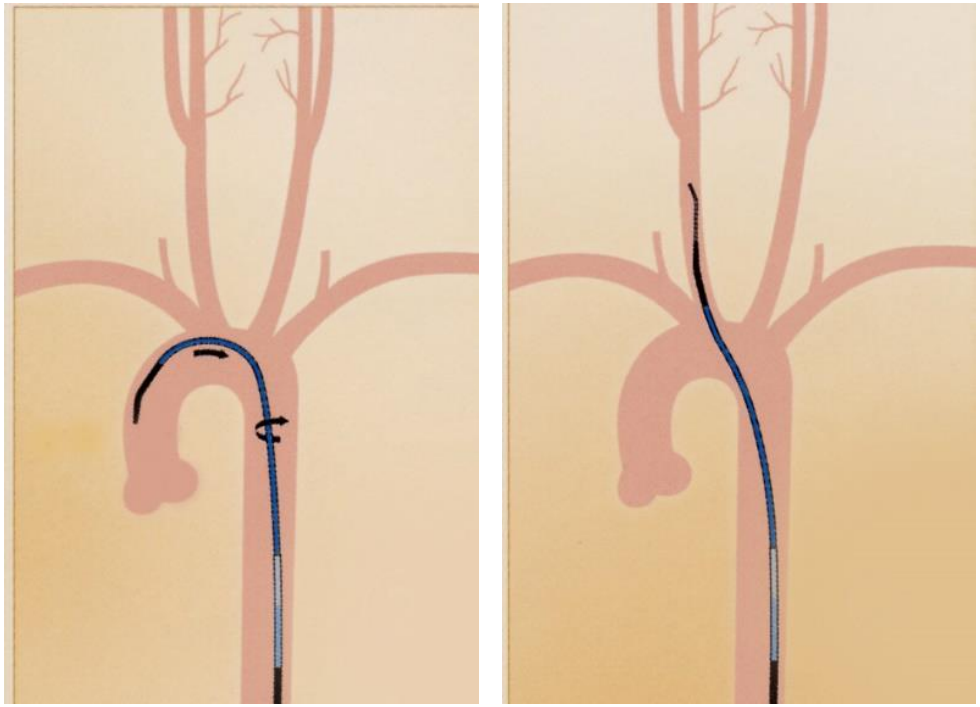


Sheath

Diagnostic catheter

Micro-catheter

Devices



Shuttle Sheath Technique

All Cerebrovascular Interventions

- Anti-thrombotic medication
- Permanent flushing of sheath and micro-catheter
- Local or general anesthesia?

How to develop the skills?

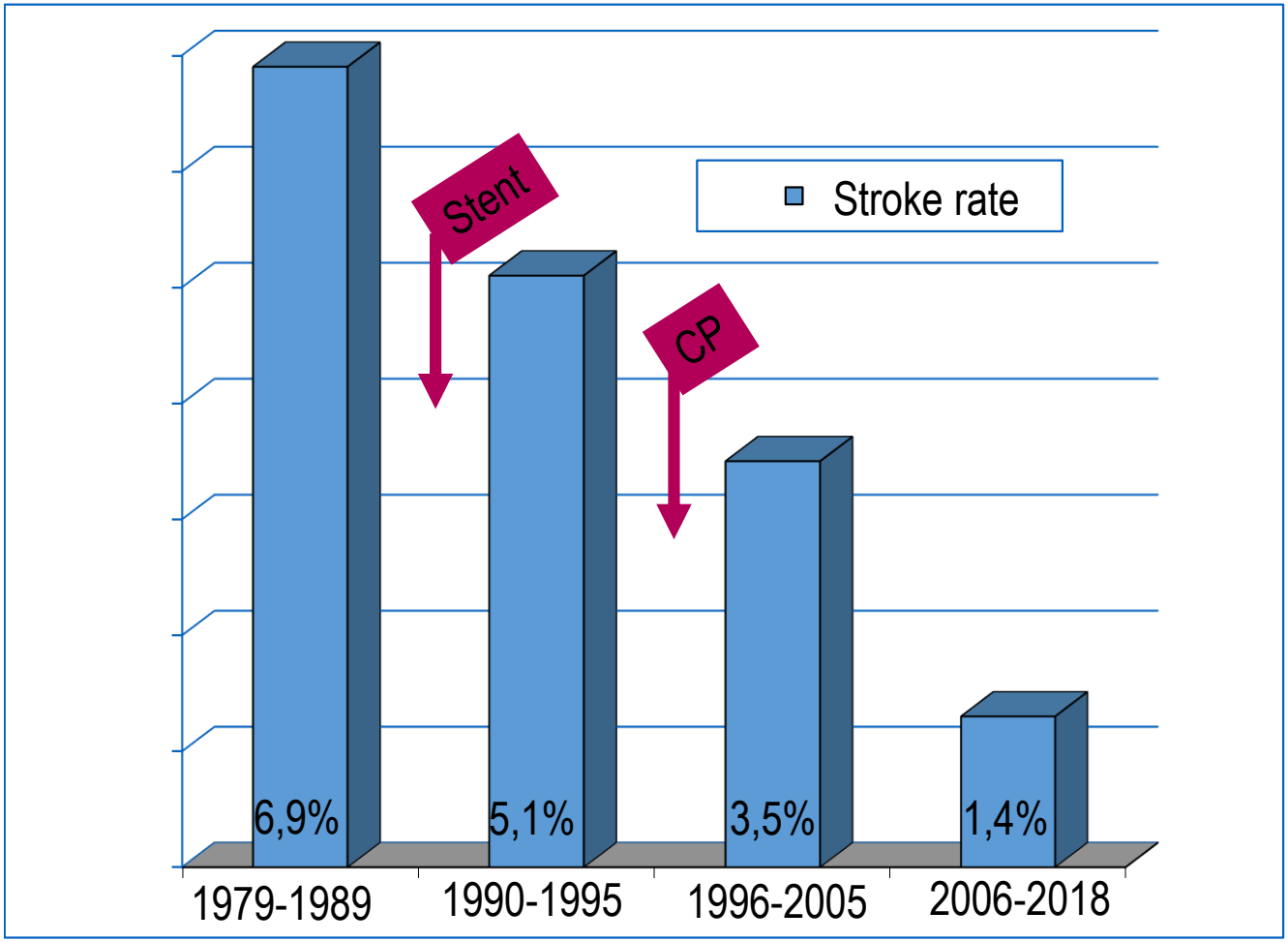
- Assist experienced operators
- Start with simple cases
- Use simulators
- Visit practical courses

You need a certain number of interventions to get good results and to avoid failures and complications.

Simulators

- Broad spectrum of different cases
- Same case with different devices
- Simulation of complications
- Repeatable in case of failure
- Less stress for operator than in real life

CAS - Learning Curve & Technical Development



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Recommendations in Germany*

- Invasive cardiology for many years (Certificate German Society of Cardiology)

- Daily co-operation in a radiological / neuroradiological department in a hospital with a Stroke Unit for 6 months

- Reporting of 100 Stroke-CTs, 50 CT-Angiographies, 30 Perfusion-CTs, 50 cranial MRIs and 50 MR-Angiographies

*A Berlis: German Curriculum in Interventional Neuroradiology. Clin Neuroradiol 2015; 25:345-47

Recommendations in Germany

- Experience with 20 diagnostic angiographies of head and neck arteries under supervision of a radiologist / neuroradiologist
- Experience of 10 angoplasties of carotid arteries and 20 recanalisations of cerebral arteries
- 30 CME-points in neuroradiological education
- Interdisciplinary „Task Force“ of neuroradiologists and cardiologists when neuroradiologically insufficient capacity for a 7/24 service

US Guidelines

AHA/ASA Guideline

2018 Guidelines for the Early Management of Patients With Acute Ischemic Stroke

A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association

Reviewed for evidence-based integrity and endorsed by the American Association of Neurological Surgeons and Congress of Neurological Surgeons

Endorsed by the Society for Academic Emergency Medicine and Neurocritical Care Society

The American Academy of Neurology affirms the value of this guideline as an educational tool for neurologists.

William J. Powers, MD, FAHA, Chair; Alejandro A. Rabinstein, MD, FAHA, Vice Chair; Teri Ackerson, BSN, RN; Opeolu M. Adeoye, MD, MS, FAHA; Nicholas C. Bambakidis, MD, FAHA; Kyra Becker, MD, FAHA; José Biller, MD, FAHA; Michael Brown, MD, MSc; Bart M. Demaerschalk, MD, MSc, FAHA; Brian Hoh, MD, FAHA; Edward C. Jauch, MD, MS, FAHA; Chelsea S. Kidwell, MD, FAHA; Thabele M. Leslie-Mazwi, MD; Bruce Ovbiagele, MD, MSc, MAS, MBA, FAHA; Phillip A. Scott, MD, MBA, FAHA; Kevin N. Sheth, MD, FAHA; Andrew M. Southerland, MD, MSc; Deborah V. Summers, MSN, RN, FAHA; David L. Tirschwell, MD, MSc, FAHA; on behalf of the American Heart Association Stroke Council

US Guidelines

Background and Purpose—The purpose of these guidelines is to provide an up-to-date comprehensive set of recommendations for clinicians caring for adult patients with acute arterial ischemic stroke in a single document. The intended audiences are prehospital care providers, physicians, allied health professionals, and hospital administrators. These guidelines supersede the 2013 guidelines and subsequent updates.

Methods—Members of the writing group were appointed by the American Heart Association Stroke Council's Scientific Statements Oversight Committee, representing various areas of medical expertise. Strict adherence to the American Heart Association conflict of interest policy was maintained. Members were not allowed to participate in discussions or to vote on topics relevant to their relations with industry. The members of the writing group unanimously approved all recommendations except when relations with industry precluded members voting. Prerelease review of the draft guideline was performed by 4 expert peer reviewers and by the members of the Stroke Council's Scientific Statements Oversight Committee and Stroke Council Leadership Committee. These guidelines use the American College of Cardiology/American Heart Association 2015 Class of Recommendations and Levels of Evidence and the new American Heart Association guidelines format.

Results—These guidelines detail prehospital care, urgent and emergency evaluation and treatment with intravenous and intra-arterial therapies, and in-hospital management, including secondary prevention measures that are appropriately instituted within the first 2 weeks. The guidelines support the overarching concept of stroke systems of care in both the prehospital and hospital settings.

Conclusions—These guidelines are based on the best evidence currently available. In many instances, however, only limited data exist demonstrating the urgent need for continued research on treatment of acute ischemic stroke. (***Stroke.*** **2018;49:e46–e99. DOI: 10.1161/STR.0000000000000158.)**

US Guidelines

2. Mechanical thrombectomy requires the patient to be at an experienced stroke center with rapid access to cerebral angiography, qualified neurointerventionalists, and a comprehensive periprocedural care team. Systems should be designed, executed, and monitored to emphasize expeditious assessment and treatment. Outcomes for all patients should be tracked. Facilities are encouraged to define criteria that can be used to credential individuals who can perform safe and timely intra-arterial revascularization procedures.

Level 1 Evidence

Acute Stroke

How to measure good care?

- Door-to-needle time

  < 45 min, aim < 30 min

- Door-to-reperfusion time

  < 90 min, aim < 60 min

Conclusion

Not only interventional radiologists and neuroradiologists should perform neurointerventions,
but also other well trained interventionalistsfrom other specialities!