What's New in Adult Spine:

Best Article I've Read This Year and Practical Application

Nitin N. Bhatia, M.D.
Chief, Spine Service
Residency Program Director
Vice Chairman, Orthopaedic Surgery
University of California, Irvine

UNIVERSITY OF CALIFORNIA • IRVINE
ORTHOPÆDIC SURGERY

Disclosures

- I have a potential conflict with this presentation due to:
  - (a) None related directly to this talk
  - (b) Consulting/Royalty/Speaker's Bureau payments for unrelated products from: Alphatec, Biomet, DiFusion, Seaspine, Spineart, Stryker

UNIVERSITY OF CALIFORNIA • IRVINE
ORTHOPÆDIC SURGERY

Thought Process

- What clinical questions have been "answered"
- Does it make a change in my practice
- Am I happy with the results?

UNIVERSITY OF CALIFORNIA • IRVINE
ORTHOPÆDIC SURGERY

Three Main Areas

- Disc arthroplasty vs ACDF
- The efficacy of epidural injections
  - vs medication (gabapentin)
  - HNP vs spinal stenosis
- Use of post-operative antibiotics
  - Length of treatment

UNIVERSITY OF CALIFORNIA • IRVINE
ORTHOPÆDIC SURGERY

Cervical Spine: Total Disc Arthroplasty vs ACDF

- Most cited studies are randomized controlled trials (RCT)
- RCT's have some inherent flaws
  - Strict enrollment criteria
  - Author/industry bias
  - Enrollment bias

UNIVERSITY OF CALIFORNIA • IRVINE
ORTHOPÆDIC SURGERY

Patient Registries

- Allows evaluation of “real world” patients
- Not limited by RCT rules

UNIVERSITY OF CALIFORNIA • IRVINE
ORTHOPÆDIC SURGERY

ELSEVIER

CrossMark

THE SPINE JOURNAL

The Spine Journal 16 (2016) 136–145

2015 Outstanding Paper Winner: Surgical Science

Total disc arthroplasty versus anterior cervical interbody fusion: use of the Spine Tango registry to supplement the evidence from randomized control trials

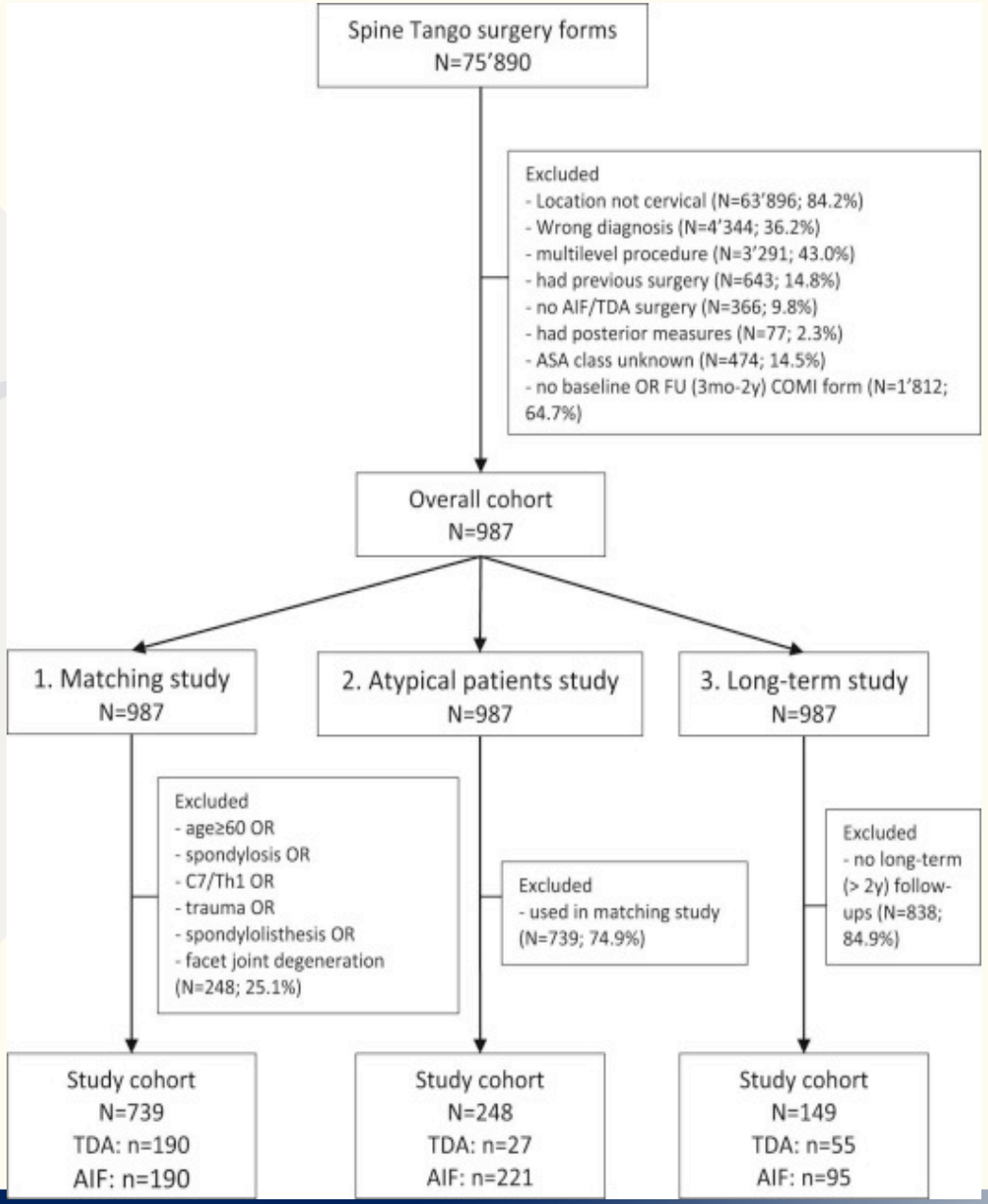
Lukas P. Staub, MD, PhD[a], Christoph Ryser, MD[a], Christoph Röder, MD[a], Anne F. Mannion, PhD[b], Jeffrey G. Jarvik, MD[c], Max Aebi, MD[d], Emin Aghayev, MD[a,*]

[a]*Institute for Evaluative Research in Medicine, Stauffacherstrasse 78, 3014 Bern, Switzerland*
[b]*Spine Centre Division, Department of Teaching, Research and Development, Schulthess Klinik, Lengghalde 2, CH-8008 Zurich, Switzerland*
[c]*Comparative Effectiveness, Cost and Outcome Research Centre, University of Washington, 4333 Brooklyn Ave NE, Seattle, WA 98104, USA*
[d]*Department of Orthopaedic Surgery, Salem Spital, Schänzlistrasse 39, Bern 3025, Switzerland*

Study Purpose

- Evaluate cervical total disc arthroplasty (TDA) vs ACDF
- Created a “RCT” arm, and non-RCT arm, and a long-term arm

UNIVERSITY OF CALIFORNIA • IRVINE
ORTHOPÆDIC SURGERY



UNIVERSITY OF CALIFORNIA • IRVINE
ORTHOPÆDIC SURGERY

Total Patients

- 987 total patients
- 739 were representative of RCT patients
  - 190 pairs of well matched patients

UNIVERSITY OF CALIFORNIA • IRVINE
ORTHOPÆDIC SURGERY

Patient: RCT Exclusion Group

- 248 patients would have been excluded from RCT
- Most common exclusion criteria: age >60 years or diagnosis of spondylosis

UNIVERSITY OF CALIFORNIA • IRVINE
ORTHOPÆDIC SURGERY

Results

- The “RCT” group showed slight superiority of TDA
- The “non-RCT” atypical group showed no differences
- Long term group (from both RCT and non-RCT) showed trends towards TDA benefit but not statistical significance

UNIVERSITY OF CALIFORNIA • IRVINE
ORTHOPÆDIC SURGERY

Results

- Benefits of either surgery remained over time
- TDA may show some superiority in the tight indications used in RCT, but in a “real-world” patient there was no difference

UNIVERSITY OF CALIFORNIA • IRVINE
ORTHOPÆDIC SURGERY

Summary

- Both ACDF and TDA provided consistent and long-term relief from cervical symptoms (neck and arm pain)
- In highly selected patients, TDA may show some superiority

UNIVERSITY OF CALIFORNIA • IRVINE
ORTHOPÆDIC SURGERY

Thank you!