Minimally-Invasive *Hand* Surgery (MIHS)
La chirurgie mini-invasive de la main

Table ronde au congrès annuel de la SFCM 2019

A. Zemirline, G. Prunières, F. Lebailly, C. Taleb, K. Naito
Conflicts of interest
Introduction and historical reminder

Ahmed ZEMIRLINE (Rennes)
Etymology & definition

Minimally-Invasive Surgery (MIS)

Minimum

invadere
Necessarily minimally-invasive
Antiquity, Middle ages, Renaissance

Julius Caesar ARANZI
(1530 – 1589)
The *Lichtleiter* of Bozzini

Philipp BOZZINI
(1773 – 1809)
Endoscopy and Laparoscopy

Antonin Jean Desormeaux (1815 – 1894)

Hans Christian Jacobaeus (1879 – 1937)
Occurrences in literature

"Minimally invasive surgery" - "Chirurige mini-invasive"
Occurrences in literature
“Minimally invasive” AND “hand surgery”

- "Minimally invasive": 81,703 papers
- "Hand surgery": 12,516 papers
- Intersection (161 papers)
Une bible ?
How is an MIS technique born?
How is an MIS technique born?
Drift & Shift
**Drift & Shift**

**Mutation**

**Antigenic drift**

- Small Mutations

**Antigenic shift**

- New Strain
This is a *Drift*
… and that is a **Shift**
What is a **Shift**?

- Imaging device
- A former surgical procedure
- Suitable surgical instrument
Imaging devices
Suitable surgical instruments
Conflict of interest or **The New Medical-Industrial Complex**

**ENGINEERING FOR PATIENT SAFETY**  
*Issues in Minimally Invasive Procedures*

Edited by  
Jenny Dankelman  
Cornelis A. Grimboumen  
Henk G. Stassen

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**HELPING SURGEONS TREAT THEIR PATIENTS BETTER**  
*A History of Arthrex’s Contribution to Arthroscopic Surgery*

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**THE NEW MEDICAL-INDUSTRIAL COMPLEX — RELMAN**

**SPECIAL ARTICLE**

**THE NEW MEDICAL-INDUSTRIAL COMPLEX**  
*Arnold S. Relman, M.D.*

**Important health-care development, relatively unheralded, that supplies health-care services, overemphasis on techn-skimming, and it may also serve to make the public and the profession aware of the complex in which the interests of patient and physician are sometimes in conflict.**

*The New England Journal of Medicine*  
Volume 307, Issue 18, May 6, 1982  
Pages 965-70*
The famous learning curve

- Performance measure
- Number of trials or attempts at learning

- Slow beginning
- Steep acceleration
- Plateau
The real learning curve in *minimally-invasive* surgery

**CLUELESS**
You don’t know what you don’t know

**DISTRIBUTEDLY REALISTIC**
You know what you don’t know

**NAÏVELY CONFIDENT**
You think you know, but still don’t know what you don’t know

**MASTERY ACHIEVED**
You know it
The real learning curve in *minimally-invasive* surgery

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ἐν οίδα ὅτι οὐδὲν οἶδα
“I know that I know nothing”
The real learning curve in *minimally-invasive* surgery

**I know that I know nothing**

**“Much to learn, you still have”**

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**Ἴν οἶδα ὅτι οὐδὲν οἶδα**
"I know that I know nothing"