Mental Training and Practice in Surgery
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What do they have in common?

- Intense concentration
- Complex fine and gross motor ability
- Routinely performed in dynamic environments under considerable pressure

Sevdalis et al. 2013
Mental Training in Sports, Aviation and Surgery

Mental training is the systematically repeated imagination of a movement without actual performing it.

(e.g. cognitive simulation or symbolic rehearsal)

Feltz & Landers (1983)
Mental Training in Sport - Scientific Validation

- Systematic Review
- more than 400 studies about mental training in sports science
- Mental training is the most validated method in sports science that has been successfully applied for many years in high-performance sport.

The head is playing a major role in sports, especially in slalom. The stress while the competition is enormous. You never know what happens within the next second.

That's why the mental aspect is so important in my kind of sport.

Felix Neureuther
German Alpin Ski Professional
Nodal Points – The Key Feature of Mental Training

- necessary (mandatory) structural motor components that
- must be performed in a specific sequence and
- are marked by a reduction in the degrees of freedom.

⇒ Going through the track in mind (symbolic rehearsal)
⇒ See and feel an action in one's imagination
⇒ Means for reducing stress and enhancing performance
MT in Surgery – Nodal Points for Lap. Cholecystectomy

1. Bringing in the trocars
2. Exploring of the liver
3. Searching for the gallbladder
4. Fixing of the basis of the gallbladder
5. Fixing of the infundibulum
6. Incising of the peritoneal lining in the infundibulum
7. Exposing of the cystic duct and the cystic artery
8. Clipping of the cystic duct and the cystic artery
9. Cutting of the cystic duct and the cystic artery
10. Subserous shelling out of the gallbladder
11. Inspecting the liver bed
MT in Surgery – Guidelines for Application

1. Concentration exercise to focus on yourself and the upcoming surgery

2. Learn the Operation-Primer and nodal points

3. Imagine the surgery from your inner perspective

4. Do it in a systematically repeated way

=> Mental training in surgery
Mental Training in Surgery - Scientific Validation

Mental Training in Surgery

VR Simulation Training vs. Mental Training (*Grange et al. 2012*)

- Mental Training is a powerful enhancement tool in laparoscopic skills acquisition.
- Virtual Reality Simulation is not
- Box Training associated with MT is a better method than VRS with MT
Curriculum Mental Training in Surgery 2013

E-Learning
- Understanding the theoretical background

MT 1 Course
- Understanding and exercise of mental training in surgery
- Easy procedure without performing any hands-on tasks

MT 2 Course
- Mental and practical training based on standard procedures
- Usage of Operation-Primer textbooks, simulation and models

MT 3 Course
- Individual mental training of special needs and procedures

MT 4 Course
- Mental training for interdisciplinary OR-teams

Train-the-trainer course
- Training for mental trainers
- Certification and acceptance to the MT trainer board
CURRICULUM
MENTALES TRAINING
IN DER CHIRURGIE

EMPFOHLEN FÜR ÄRZTE IN WEITERBILDUNG UND FACHÄRZTE

IN ZUSAMMENARBEIT MIT ETHICON UND DEM ESI