

# MAJOR SPINE SURGERY

## A CHECK-LIST FOR INTRAOPERATIVE PHASE

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"The modern human spine is a very complex construct enabling mechanical weight bearing, stability and flexibility in the upright position. Therefore, back pain originating from multiple spine disorders is the leading cause of disability worldwide." <sup>1</sup>

### The aim

"Patient first" is in the heart of hospital's strategy. The purpose of the assignment was to produce a check-list for intraoperative phase of major spine operations (for example lumbar interbody fusions, spinal traumas and adult spinal deformities) in the perioperative unit of Central Finland's Central Hospital. The goal of the check-list is to enhance the intraoperative process and minimize complications.

### Methods

The draft of the check-list was created by theoretical framework such as The Johari Window, ISBAR and practical experiences of the subject. The prototype was tested by anesthetic and operating room nurses in six spine operations. The check-list was revised according to the feedback.

Detailed check-lists were created for both anesthesia and operating nurses. The spine check-list includes sign in, time out and sign out -phases.

### Results

The more specific check-list aims for standardized actions, which increases patient safety and wellbeing of the staff. It also enables further development of the perioperative practice. The spine check-list is used alongside with the WHO's check-list of the operating room. Check-list improved intraoperative team's communication, which improves patient safety.

### Conclusions

In our hospital the implementation of this check-list optimized common practices, which led to safer and homogenous care for all spine patients. Check-lists can be formed locally according to each unit's needs. Standardized practices are also cost efficient and a well-functioning team is better for the patient.

**I** = identify

**S** = current situation

**B** = background

**A** = assessment

**R** = recommendation



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### Check-list for scrub and circulating nurses during induction

#### **SIGN IN**

- ISBAR
- Operation check: name of the operation, operation site, posture, instrumentation, cages
- Containers, instruments and other supplies with container trolley collected according to written guidelines
- Amount of borrowed instrumentation
- Bone/banked bone + locally administrated antibiotics
- Data collecting programs opened and checked
- Ensuring the C-arm functions

#### **TIME OUT**

- "Lack list" gathered
- Back-up instruments/supplies/drugs inside the operating room (OR)
- Diathermia optimized
- Surgical lights optimized

### Surgeon's time out before skin incision

- ISBAR
- Right patient
- Right pictures present
- Operation plan
- Estimated time needed
- Estimated blood loss
- Exceptions from the routine
- Critical stages during surgery
- Induction drugs given as ordered (antibiotics and tranexamic acid)
- Anticoagulants, laboratory results checked, blood products reserved
- Allergies (drugs, latex, nickel)
- The whole team ready for surgery

### Sign out before patient leaves operating room

- Drain in function
- X-ray pictures saved and transmitted to data
- Amount of radiation written down
- Surgical procedure code and used implantation written down correctly
- Possible problems/failures of used instrumentation written down and forwarded accordingly
- Refill of the implant storage inside the OR
- Reorder used implants

"Nonetheless, for the check-list to succeed, chiefs of surgery, anesthesia, and nursing are encouraged to publicly embrace the concept that safety is a priority and that the use of a check-list can make surgical care safer."<sup>2</sup>

### References

- 1 Kyrölä, K. 2019. Adult Spinal Deformity. Academic dissertation.
- 2 WHO. 2008. Safe Surgery Saves Lives.