Guidelines for SME Interviews
Cognitive Task Analysis of the surgical procedure (on individual and team level)

Explanatory Introduction:

Dear Mr./Ms./Mrs. Name thank you very much for your time and for helping our research project and us. As we already told you, we are working on the development of a virtual-reality simulator for vertebroplasty (VP). Therefore, I want to talk through an entire VP procedure step by step with you. This will give us important information about the procedure, which we will then integrate into the simulator. I will ask you questions about each step of the VP. Please answer these questions as precisely and with as much detail as possible. I will record this interview in order to analyse it later on. Are you okay with this? Do you have any questions so far?

Sub Steps:
Move patient to OR table - Locate entry point - Surgical scrub and covering of the patient - Team Time Out – Skin incision (optional) - Insertion of the trocar - Inject cement - Remove the trocar - Skin suture and final C-Arm image control

Questions for every Sub Step:

- objectives/sequence of actions
  - What are the objectives for this sub step?
  - How do you proceed?

- responsibility
  - Who is responsible?

- decisions/base for decisions
  - What decisions do you need to make?
  - On what basis do you make these decisions?

- attention
  - What do you focus your attention on?

- information
  - Which information is important?
  - Where do get this information from?
  - Do you use any imaging (CT/fluoroscopy)?

- feedback/sensory experience – What feedback do you get through…
  - sensory experience?
  - auditory experience?
- visual experience?
- other team members?

- **equipment and materials**
  - What tools and equipment do you use?

- **communication**
  - What communication is necessary?
    - With colleagues of the same profession (assistant/senior)?
    - With nurse?
    - With anesthetists?
    - With patient?

- **coordination within the team - What coordination takes place?**
  - Who performs the preliminary work for you, who supports you?
  - Are other team members dependent on your work? Do you do the preliminary work for someone else?

- **time-sensitive steps**
  - Is this sub step time-sensitive?

- **automated action**
  - Is this action automated?

- **potential complications**
  - What kind of complications could occur?

- **variations**
  - Are there any variations to your approach?
  - Is it possible to leave out this sub step?