

Workflow analysis of clinical use of a semi- automatic checklist tool in

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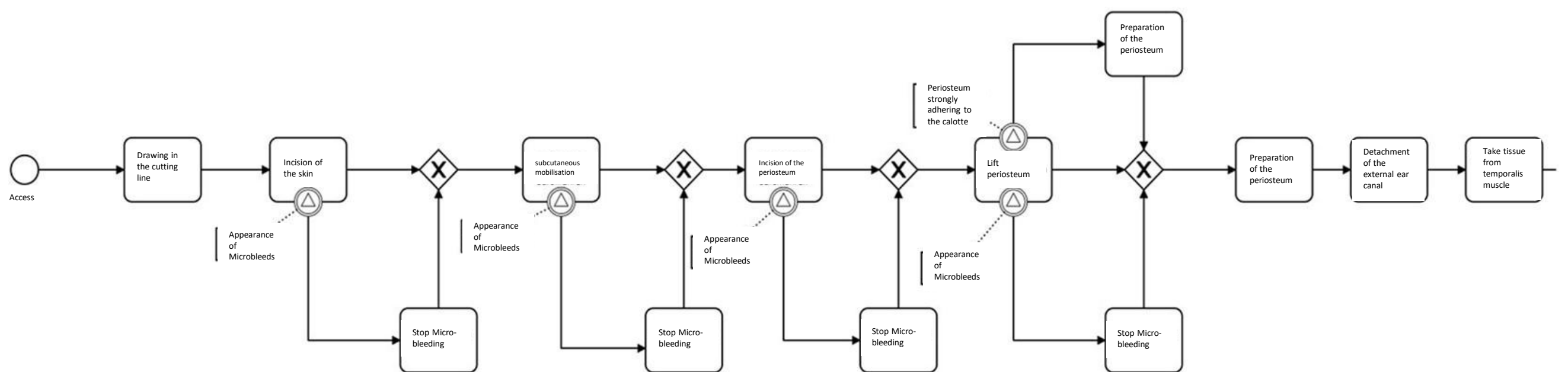
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OBJECTIVE

Even if there is a standard procedure of CI surgery, especially in pediatric surgery surgical steps often differ individually due to anatomical variations, malformations or unforeseen events. This is why every surgical report should be created individually, which takes time and relies on the correct memory of the surgeon. A standardized recording of intraoperative data and subsequent storage as well as text processing would therefore be desirable and provides the basis for subsequent data processing, e.g. in the context of research or quality assurance.

METHOD

In cooperation with Reutlingen University, we conducted a workflow analysis of the prototype of a semi-automatic checklist tool. Based on automatically generated checklists generated from BPMN models a prototype user interface was developed for an android tablet. Functions such as uploading photos and files, manual user entries, the interception of foreseeable deviations from the normal course of operations and the automatic creation of OP documentation could be implemented. The system was tested in a remote usability test on a petrous bone model.



Tab. 1. BPMN model

Tab. 2. Surgical Process Checklist (in German) Translation: 1= Drawing in the cutting line, 2= Incision of the skin 3= Incision of the periosteum 4= lift periosteum 5= did the following event occur during this step? O Appearance of mikrobleeds 6= did the following event occur during this step? O Periosteum strongly adhering to the calotte. Preparation of the periosteum

CONCLUSION

The use of a dynamic checklist tool facilitates the capture, storage and processing of surgical data. Further applications in clinical practice are pending.

RESULTS

The user interface allows a simple intuitive handling, which can be well implemented in the intraoperative setting. Clinical data as well as surgical steps could be individually recorded and saved via DICOM. An automatic surgery report could be created and saved.