Indications for Use

The ONE Planner Hip is intended for use as preoperative surgical planning software to aid orthopaedic surgeons in component selection, sizing and placement for primary total hip arthroplasty.

The Move Forward is intended as pre-operative or post-operative software for simulating/evaluating hip preservation surgical treatment options and historical case review, respectively.

The ONE Planner Hip is intended to be used to assist qualified medical professionals to perform fast and effective pre-operative planning for various surgical procedures related to the hip using 2D or 3D image data

Maybe not use "qualified medical professionals" since it may confuse users vs surgeons

User Needs

Legend: OPH3D | OPHMF | OPH | Comment | Design | Channel | R&D | Project risk | Wait for discussion | Needs more discussion | ! | (timer) | (?)

US001 Template hips using an AP X-ray image

US015 Calibrate the X-ray

US? Template hips ... 2D ❌

USTBD Template hips ... R AP X-ray image (fake ...) ❌

- We could split it out
- This is still tentative

US294 Template hips in 3D using CT image data

- Or keep it generic at this level
- I would prefer to keep it like this, the fake X-rays are a Design Output, not Design Input

US118 Contrast/ brightness of X-ray
- OPH3D needs this for pelvic tilt too

US295 Available brands for shells and stems
- We'll be extending the scope, I imagine we'll keep them in sync

US301 Plan brand, type and size of shell

US302 Plan brand, type and size of stem

US303 Position of stem

US304 Position of shell
- Should we make a distinction whether its in 2D or 3D?

US305 Version of shell

US306 Inclination of shell

US307 Varus/valgus of stem

US297: Version of stem
- Should we generalize this to rotate the stem/shell?

US298: Flexion/ extension of stem

US299: Version of the acetabulum
- Given that we're mentioning these separately could be an argument to do the same for the stem

US300: Version of the femur

US308 Leg length difference

US309 Offset Difference

US310 Femoral neck cut
- We might want to make changes to how we measure this in both 2D and 3D

US311 Leg length and offset corrections

US312 Post-operative result simulation
- In OPH3D everything is simulated, there's no pre-op visualization
- Maybe Review is pretty much this

US111 Spinopelvic mobility
Pelvic tilt: sacral tilt 31.8°, sacral tilt 30.0°, sit-stand 1°, PT category Stiff/Fused
- OPH3D literally needs the same type of UI with X-rays

US112 Categorization of spinopelvic mobility
Pelvic tilt: sacral tilt 31.8°, sacral tilt 30.0°, sit-stand 1°, PT category Stiff/Fused

US116 Case notes — Notes

US313 Automated planning/templating

US126 PDF Report
- OPH3D will likely use a fake X-ray and different values on the left, but still a one-pager

US296: Range of motion simulation
- What to do with native anatomy? Currently we only show the templated plan, nothing else

US315: Plan the liner of the shell

Cards (center/right columns)

- Make Review feel more like a fake X-ray
- Use icons for cup/ stem?
- Approve from the menu
- Make review screen the first step in the process
- Remove breadcrumbs from sub-bar
- Approve screen: have a way to go back (e.g. Cancel) to recover from fat finger approving

- What happens when you End the Session?
- What happens when you close the Tab after approving?
- Flow for Cheat sheet
- Do we need landmark adjustment and if so, is it a user need?
- More visible Undo button
- Explore whether we could template the contralateral side?

- XRay Switcher in AP view in Review
- Two buttons to go directly to Cup or Stem editor from Review
- The complexity of an interactive fake X-ray are a high risk to the timeline !

- How should we display the head options in the PD view?
- The optimal LLD/offset point near the heads is not immediately clear (confused with the acetabular center)

- Gizmo for orientation in 3D views (mainly in Cup AP)
- Drag interaction of the Cup
- Flow when you rotate the acetabulum and how to go back to neutral position
- Hover to see the hours on the dots in the Acetabulum viewport
- Do we need CT slices on top of the hourly slices? Would still not be enough to diagnose extra problems
- Show percentage of coverage of the cup?
- R&D The distance map might not work (well) if we have messed up hips !

- Find a way to compress Size, Head and Version
- Should we display the acetabular version similar to femoral version?
- What to do with asymmetric cups & liners?

- Color the stem part where you are making enough contact, but not removing cortex bone
- Remove the PA view in Stem AP (since it is the same thing anyway)
- How should the camera be oriented in the PD view?

- See implant in cup view

- Make clicking on the tools toggling them on/off instead of the eye button?
- R&D What pelvic landmark to use for the offset?
- R&D How to deal with implants on the contralateral side? !
- R&D How should femoral version influence the LLD & offset
- The labels FO/GO are not immediately clear. But labels on hover could help

- Explore alternative ways of planning the femoral neck cut
- Lawrie had trouble judging the neck cut in just the AP slice view. Does he need a 3D view?
- Don't cut through the lesser or greater trochanter!

- Explore how to make Review look more like a fake X-ray
- How should the femur be rotated and/or how should femoral version influence offset?
- R&D Explore whether we can segment the sacrum

- A way to modify the pelvic tilt and see the results
- Pelvic tilt triggered from the table
- Pelvic tilt screen with its corresponding tables
- Table design without the Pelvic tilt table
- Make a way to collapse and expand data tables
- Make table elements look more clickable
- How to hide pelvic tilt when there are no lateral X-rays?
- What UI do we need to tilt the pelvis?
- R&D What should be influenced by pelvic tilt?

- Notes flow

- Use magic wand icon and no text?
- R&D Use the contralateral side
- Does magic wand make sense in Review?
- R&D How fast can we autoplan a single stem/cup? So only rotate/translate the current implant
- R&D How to deal with implants on the contralateral side? Segmentation, anatomy etc !

- New PDF Report (Can we squeeze in all info?)
- How quickly can we generate the PDF report? Or would users have to wait?

- R&D explore whether the tests are useful for THA
- Display the impingement for the contralateral side?
- Should you be able to hide the femur/ stem? If so, how?
- Don't forget to show a head and liner!
- Controls for the motion (slider + start/pause & stop/reset button)