

AIA MN Health Design Knowledge Community

OR Design Presentation & Round table

MINNEAPOLIS / MAY 30, 2019

PERKINS+WILL



AGENDA

01 / Innovation in OR Design

02 / Questions / Discussion

**03 / Round Table: Best Practices &
Lessons Learned**

01 / INNOVATIONS IN OR DESIGN

LIGHTING

Ceiling mounted vs Boom

Pros:

- No lights in surgical field
- Wide range of lighting coverage

Cons:

- Not yet available



3D PRINTING & BIO-FABRICATION

- Provides on-demand printing of sterile instruments, tissue and joints
- Requires space adjacent to OR



OVERHEAD UTILITIES

Pros:

- No booms in sterile field
- Somewhat flexible locations
- Can act as air curtain to reduce turbulence / infections

Cons:

- Can interfere with lights and monitors on booms



MINIMIZING STAFF IN THE OR

- Remote control of surgical robots – removing surgeons from the OR
- Remote Anesthesia control – locate in adjacent ante room
- Goal is to reduce circulation during procedures



SWITCHABLE GLASS

In lieu of integral blinds

- Provides for immediate privacy control of observation rooms
- Improved infection control – switch easier to clean than blind cranks.
- Can be expensive
- Questionable longevity and repair

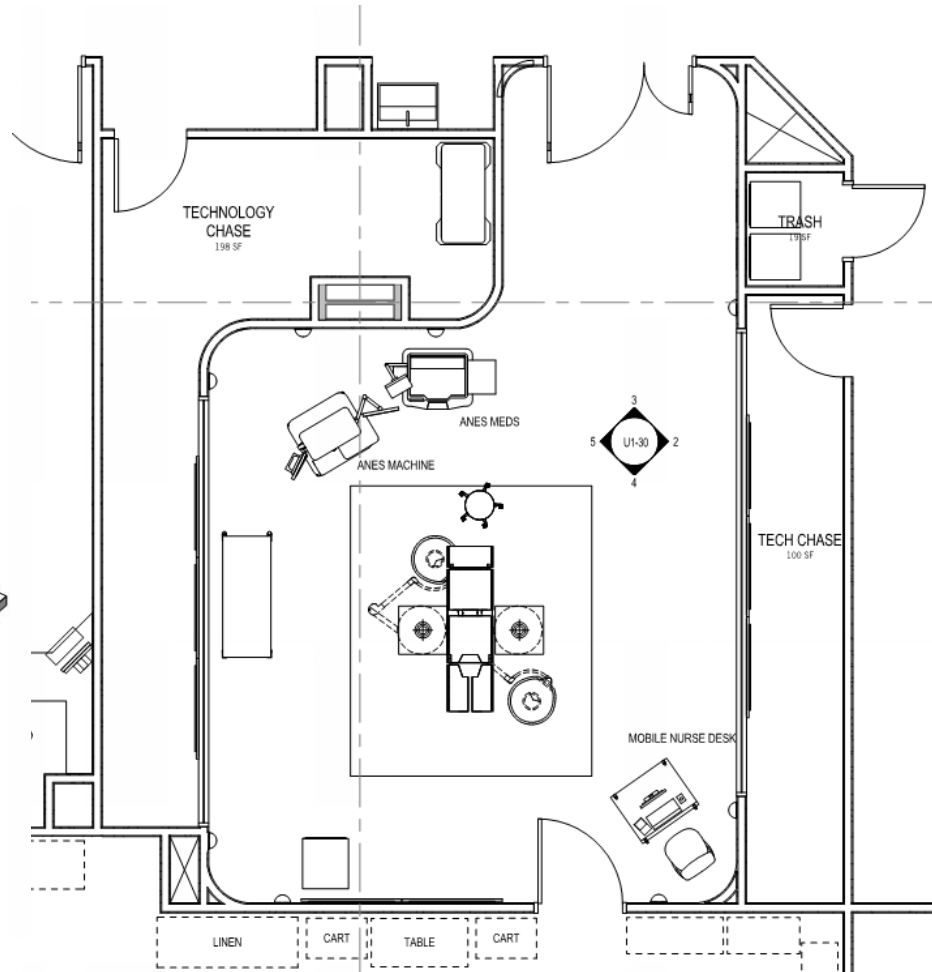
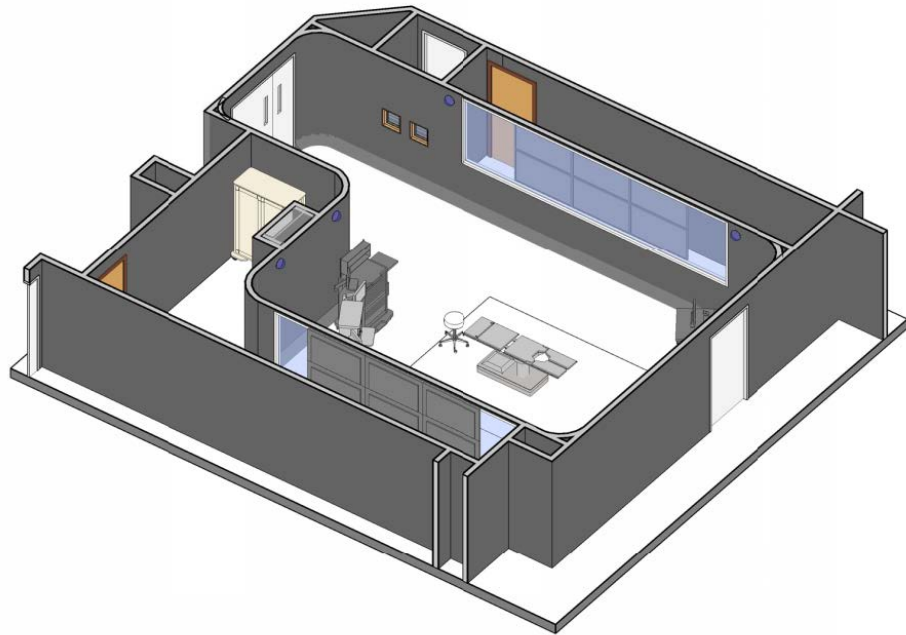


ADDITIONAL INNOVATIONS

- Virtual Reality / Holographic Images
- Mass spectrometry near OR
- Voice activation systems
 - Stryker SIDNE system; Alexa
- UV Cleaning robots
 - Xenex LightStrike; Tru-D SmartUVC
- OR in a Box
 - Clean Cube Medical System
- Robotic Surgical Nurse
 - Gestonurse <https://web.ics.purdue.edu/~jpwachs/gestonurse/>
 - Penelope <http://surgrob.blogspot.com/2013/04/scrub-nurse-robots.html>



OR CASE STUDY



02 / QUESTIONS?

03 / ROUND TABLE

BEST PRACTICES

OR Flooring

- Terrazzo – expensive, long lasting
- Terrazzo Tile – Floorazzo (expensive, may be discontinued)
- Epoxy Resin Flooring – sub floor prep & crack isolation, level of grit, top coat
- Sheet Rubber – Nora Environcare 3mm (can be too soft)

Avoid:

- Grouted tiles



BEST PRACTICES

OR Wall Protection

- Acrylic Solid Surface – ¼”, seamless, durable, expensive
- Rigid Sheet Wall Protection – not as seamless, but cost effective
- Epoxy paint – least durable

Avoid:

- Grouted tiles



BEST PRACTICES

OR Windows

Discussion:

- Exterior Windows in ORs
- Interior Windows in ORs
- Pass Thru Windows - to corridor or sterile core



BEST PRACTICES

OR Infection Control

- Minimize booms – areas for cleaning over the sterile field
- Round vertical corners in addition to integral base – fewer tight spaces to clean
- Isolation Panels – locate out of the OR
- Fixed Nurse Desk vs Mobile



BEST PRACTICES

OR Ceilings

Discussion:

- Stick built
- Modular
- Integrated lighting and diffusers



THANK YOU!



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