



The ClearPoint® System Initial Site Analysis:

Operating Room

General Resources:

Does the OR assist with any radiology procedures currently?:

Yes No

How is OR planning to coordinate surgical procedures in an MRI with the department of radiology, including tasks such as:

- * Joint scheduling of the case to coordinate the availability of the MRI machine, radiology technicians, and OR staff.
- * Terminal cleaning of the MRI pre and post case.
- * Ordering and maintaining MRI-based surgical equipment.
- * Training on MRI safety and ClearPoint processes.

Who are the responsible parties for communication between the OR and radiology, and who will primarily communicate with the physician/department of neurosurgery?:

Will the OR be assigning a consistent team(s) to the MRI ClearPoint procedures given the complexity of the MRI OR environment?:

Yes No

Who are these individuals and what are their roles (e.g.-Circulator, Scrub Technician)?:

Anesthesia:

Does the anesthesia currently use general endotracheal anesthesia to obtain MRI scans?:

Yes No

Is there an MRI-compatible anesthesia monitor with an A-line available at the institution?:

Yes No

Is the anesthesia department planning on training and assigning a core group of physicians / CRNA to cover ClearPoint cases given the complexity of the MRI OR environment?:

Yes No

Would these individuals like to speak to a ClearPoint anesthesiologist consultant to discuss their experience with the system? If yes, contact information:

Current Procedures:

Does the institution currently perform Deep Brain Stimulation (DBS) or Laser (LITT) cases?:

Yes No

Is a non-disposable stereotactic frame used (e.g.-Leksell, CRW)? If so, are there any difficulties with sterilization/missing parts? How often is the frame maintained by the parent company?:

Are there any other barriers present in these cases, such as:

- * Staff needing to manage awake patients.
 - * Imaging issues or equipment problems.
 - * Neurology availability.
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Infection Control:

What are the infection control standards for the OR, and who finalizes and maintains them?:

How will the institution apply a version of these standards to create an OR-MRI environment for ClearPoint cases, including:

- * Scheduled terminal cleaning of the MRI on case days.
 - * Relocating any air vents directly above the posterior bore / surgical field.
 - * Removal of all stored equipment in MRI on case days.
 - * Ensuring OR air standards will be met (or deferred).
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Note: Although air standards are often a point of concern for institutions, they are only one component of the overall CDC recommendations to prevent infection (see next page for details). In our experience, if all other recommendations are followed, there is no clear evidence that adopting OR grade air standards reduces infection in minimally invasive ClearPoint cases.

Reference:

Harland TA, Brougham J, Gupta S, Strahan J, Hefner M, Wilden J. A Modified Technique for Interventional MRI-Guided Deep Brain Stimulation Using the ClearPoint System. *Oper Neurosurg (Hagerstown)*. 2023;25(1):81-86. doi:10.1227/ons.0000000000000698

Recommendations for Prevention of Surgical Site Infection¹

- * Encourage patient tobacco cessation 30 days prior to surgery.
- * Treat any remote patient infections before operating, or delay elective surgery.
- * Instruct patient to bathe the day before surgery with antiseptic agent / soap.
- * Remove gross contamination of skin before surgical prep.
- * Prep the surgery site with an antiseptic alcohol-based agent.
- * Use clippers to remove hair only if it will interfere with operation.
- * Optimize oxygenation intra- and post-operatively.
- * Administer preoperative antibiotics.
- * Implement perioperative glucose control of < 200 mg/dL.
- * Maintain perioperative normothermia.
- * Maintain OR air standards.
- * Sterilize all surgical instruments appropriately.
- * Surgeons/Technicians perform preoperative surgical hand / forearm antiseptis.
- * Wear surgical mask during surgery and any time sterile equipment / instruments are exposed.
- * Wear approved surgical gowns, hats, and gloves when in surgery.

OR Air Standards²

- * Maintain positive pressure ventilation.
- * Minimize entry and exit into the room intra-procedure.
- * Use a high efficiency filter (HEPA) with 15 or more air changes/hr (ACH) with at least 3 fresh (not recirculated) ACH.
- * Filter all air with 90% or more efficiency to remove particles less than 5 micrometers.
- * Temperature between 68-75 F with humidity 20-60%.

References:

1. *CDC Guideline for Prevention of SSI, 2017*
2. *CDC Guidelines for Environmental Infection Control, July 2019*