



Why the OR Can't Work in Isolation from HIS and PACS

by Radhika Bawa

The operating room generates some of the most important data in a patient's record: imaging reviewed before incision, video and images captured during surgery, the safety checklist, and the case summary. In many hospitals, almost none of it flows automatically into the Hospital Information System (HIS) or the Picture Archiving and Communication System (PACS).

The result is an OR that runs as an island. Surgeons work around it, nurses re-enter data to bridge it, and IT teams spend time reconciling records that should never have been separated.

What a disconnected OR looks like in practice

OT teams step away to find images. Pre-operative CT, MRI or X-ray studies sit in PACS, but the OR display may not have direct access. Someone walks to a workstation, prints films, or pulls images onto a USB drive.

Schedules are typed twice. The surgery list exists in HIS, but OR staff re-enter patient details into OR systems before each case. Every manual entry is a chance for a mismatch.

IT manages more systems. Each disconnected device or application adds its own storage, user access and maintenance overhead.

What changes when the OR connects to HIS and PACS

Integration does not replace HIS or PACS. It lets the OR read from them and write back to them, using standards both systems already understand.

Patient and schedule data arrive before the patient does

Through HL7, the standard messaging protocol most HIS platforms use, the surgery schedule and patient details can flow into the OR worklist automatically. The OR team starts each case with the correct patient, procedure and surgeon already in place, without re-typing.

Prior imaging is available at the point of surgery

Through DICOM, the OR can retrieve the patient's past studies directly from PACS onto the surgical displays. The surgeon reviews the scan in the sterile field instead of relying on memory, printouts or a trip outside the room.

Intraoperative images go into the patient's record

Images captured during surgery can be saved back to PACS in DICOM format, alongside the patient's radiology studies. The patient's imaging history becomes complete: before, during and after surgery.

Surgical documentation reaches the patient file

When the OR is connected to HIS, documents such as the surgical safety checklist can be saved directly into the patient's file. Clinicians across departments see what happened in the OR without requesting paper copies.

IT gets fewer workarounds to support

Standards-based integration means data moves through defined interfaces, not USB drives and manual uploads. Surgical media stays inside the hospital's managed systems, which makes access control, backup and retention easier to enforce.

Why it matters to each stakeholder

Surgeons get prior imaging and patient context on the OR display, without leaving the sterile field.

Anaesthetists and nurses spend less time on data entry and more time on the patient. Pre-loaded worklists reduce the risk of starting a case with the wrong details.

Hospital IT gets fewer isolated systems and storage silos, with data moving through HL7 and DICOM interfaces they already support.

Medical records and quality teams get a more complete patient file, with OR imaging and documentation in the same place as the rest of the record.

Hospital management gets better data for planning, because schedules and case records come from one source rather than parallel spreadsheets.

How CREA connects the OR to HIS and PACS

CREA, Esbee Dynamed's digital OR integration platform, connects to HIS and PACS through API-based integration using the standards hospitals already run.

HIS integration (HL7):

- Surgery schedule integration
- Worklist import into CREA, so cases are ready before the team scrubs in
- Saving of the surgical safety checklist into the patient file

PACS integration (DICOM):

- Retrieval of past patient images onto OR displays
- Saving of new DICOM images captured during surgery back to PACS

For hospitals not yet ready for full HL7 integration, CREA also supports worklist import through API or CSV, so teams can move away from manual entry from day one. Surgical records in CREA can be exported in DICOM and non-DICOM formats, depending on how the hospital stores and shares data.

Each integration is scoped with the hospital's IT team during project planning, so CREA fits the HIS and PACS already in place rather than requiring them to change.

Planning an integrated OR: where to start

1. **List what the OR needs from HIS and PACS today.** Schedules, patient demographics and prior imaging are usually the first three.
2. **List what the OR should send back.** Intraoperative images, the surgical checklist and case documentation.
3. **Bring IT in early.** Confirm HIS and PACS vendors, supported HL7 message types and DICOM configuration before the OR design is final.
4. **Start with the worklist.** It delivers immediate time savings and builds confidence for deeper integration.
5. **Review data flow after go-live.** Check that images and documents are landing in the right patient records.

See it in a working OR

Visit Esbee Hive, our experience center in Mumbai, to see how CREA brings worklists, imaging and surgical records together on the OR display.

Book a CREA walkthrough at Esbee Hive

Esbee Dynamed specialises in OR integration and connected surgical instrument tracking solutions. To learn how we can support your operating theatre, contact our team.

Write to us at info@esbeedynamed.com for more info.