Inside an Operating Room

What happens in an OR?

An Operating Room (OR) is a high-cleanliness workspace where a sterile team performs procedures under anesthesia. Safety depends on standardized workflows, air handling, and continuous monitoring. In France, organization and safety are framed by law [1], national guidance from HAS [2] and professional societies such as SFAR [3].

Operation flow

1) Admission and checks. Identity, consent, site/side, allergies, fasting, device readiness. Teams run the national surgical safety checklist before incision [2].
2) Anesthesia. Monitoring starts before induction; airway is secured if needed; ventilation and infusions are managed. Minimum monitoring is specified by SFAR and French rules [1, 3].
3) Surgery. Sterile field maintained; electrosurgery, suction, and imaging used as indicated; counts and traceability recorded.
4) Recovery (SSPI/PACU). Continuous monitoring continues until discharge criteria are met; uninterrupted post-interventional surveillance is mandated [1].
5) Ambulatory pathways. Increasing share of operations planned and performed as day cases, with structured scheduling and discharge education [4, 5].

The air and the room

ORs use controlled ventilation with filtration and pressure differentials to limit contamination. French practice references the NF S90-351 cleanroom family and infection-prevention guidance [6].

Core equipment

Anesthesia workstation. Ventilator, vaporizers, gas delivery, agent and capnography measurement; capnography is standard for intubated patients [3].
Physiologic monitors. ECG, non-invasive blood pressure, pulse oximetry, capnography, temperature; invasive pressures and depth-of-anesthesia EEG when indicated [3].
Infusion devices. Volumetric and syringe pumps for anesthetics, analgesics, vasoactive drugs.
Electrosurgical unit. With return-electrode monitoring; smoke evacuation when needed.
Airway and suction. Wall and portable suction; airway adjuncts.
Defibrillator and emergency cart. With crisis algorithms.
Imaging. Mobile C-arm, ultrasound, laparoscopy towers with camera, light source, insufflator.
Patient warming. Forced-air or fluid warmers; continuous temperature monitoring.
Table, lights, pendants. Powered positioning, shadow-reduced surgical lighting, ceiling booms for power, gases, and data.
Sterility support. Instrument tracking, sterile container systems; integration with sterilization services.

Digital systems around the OR

Scheduling and orchestration. Allocation of block time, case sequencing, and real-time regulation reduce delays [4].
Electronic records. Anesthesia information systems, OR nursing charting, implant traceability, image archiving (PACS).
Checklists and decision support. Digital forms for the HAS checklist and peri-operative pathways [2].

Team and safety culture

The OR runs on predefined roles, briefings, and time-outs. The HAS surgical safety checklist reduces complications and strengthens communication; it is a mandatory tool in French quality frameworks [2].

References

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[2] Haute Autorité de Santé (HAS). *Check-list « Sécurité du patient au bloc opératoire »*. https://www.has-sante.fr/upload/docs/application/pdf/2016-02/mode_demploi_et_version_2016_de_la_check-list_securite_du_patient_au_bloc_operatoire.pdf.

[3] Société Française d'Anesthésie et de Réanimation (SFAR). *Recommandations*. https://sfar.org/recommandations/.

[4] Agence Régionale de Santé Île-de-France. *7 fiches pratiques pour optimiser l'organisation de vos blocs opératoires*. https://www.orca-chirurgie-ambulatoire-ars-idf.fr/wp-content/uploads/2022/04/Fiches_bonnes_pratiques_ARS_2022.pdf.

[5] Haute Autorité de Santé (HAS). *Parcours du patient en chirurgie ambulatoire 2024*. https://www.has-sante.fr/upload/docs/application/pdf/2024-03/iqss_2024_fiche_descriptive_ip_ca_csp_2024.pdf.

[6] Société Française d'Hygiène Hospitalière (SF2H). *Qualité de l'air au bloc opératoire et autres secteurs interventionnels*. https://www.sf2h.net/k-stock/data/uploads/2015/05/SF2H_recommandations_qualite-de-l-air-au-bloc-operatoire-et-autres-secteurs-interventionnels-2015.pdf.