SNS COLLEGE OF ALLIED HEALTH SCIENCE

Affiliated to The Tamil Nadu Dr MGR Medical University, Chennai

DEPARTMENT OF CARDIOPULMONARY PERFUSION CARE TECHNOLOGY

COURSE NAME: CSSD

UNIT I : CSSD Work practice, return of equipment and initial processing

TOPIC : Classification of Medical Equipment for Cleaning in Hospitals: A Design Thinking Approach

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Importance of Equipment Cleaning

Protects Patients and Staff

Safeguards the health and safety of individuals in hospitals

Prevents HAIs

Reduces the risk of infections in healthcare settings

Supports Compliance

Helps healthcare facilities meet regulatory standards

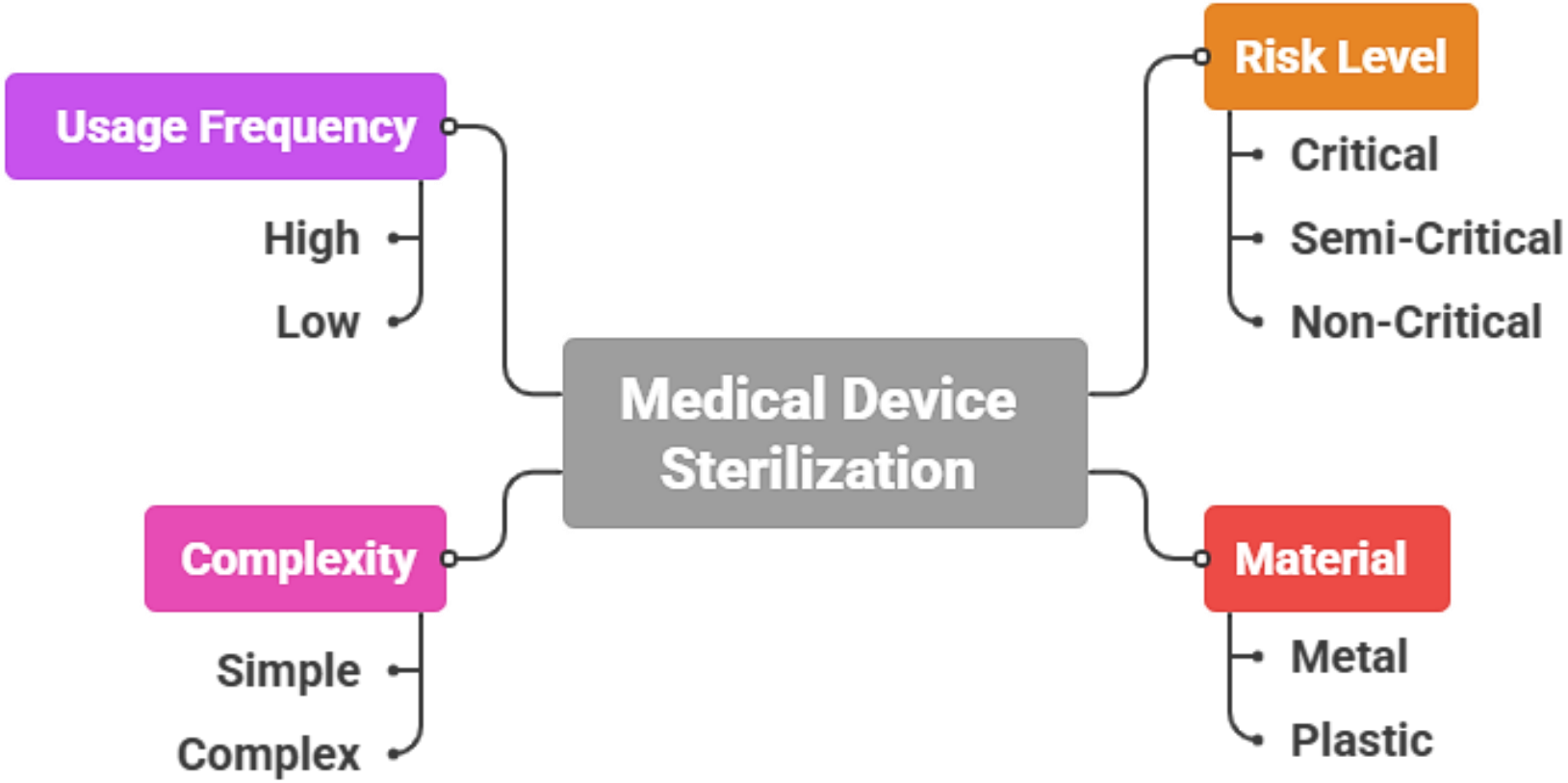
Ensures Equipment Safety

Maintains the safety and functionality of medical equipment

Design Thinking for Cleaning Processes

- **Empathize**: Understand needs of CSSD staff and clinicians.
- **Define**: Identify equipment cleaning challenges.
- **Ideate**: Develop tailored cleaning protocols.
- **Prototype**: Test cleaning methods for efficiency.
- **Test**: Refine based on feedback and outcomes.

Criteria for Equipment Classification



Spaulding's Classification for Cleaning

- **Critical**: Enters sterile tissue; requires sterilization.
  - Example: Surgical scalpels, implants.
- **Semi-Critical**: Contacts mucous membranes; requires high-level disinfection.
  - Example: Endoscopes, laryngoscopes.
- **Non-Critical**: Touches intact skin; requires low-level disinfection.
  - Example: Blood pressure cuffs, stethoscopes.

Material-Based Classification

Cleaning by Material Type

- **Metallic (e.g., Stainless Steel)**: Scalpels, forceps; cleaned with enzymatic detergents, autoclaved.
- **Plastic/Polymer (e.g., Catheters)**: Sensitive to heat; use low-temperature disinfection (e.g., hydrogen peroxide).
- **Delicate (e.g., Fiberoptic Cables)**: Manual cleaning with mild agents to avoid damage.

Complexity-Based Classification

Cleaning by Equipment Design

- **Simple**: Flat surfaces, no crevices (e.g., trays); easy manual cleaning.
- **Complex**: Lumens, joints (e.g., endoscopes); requires automated washers or ultrasonic cleaning.
- **Electronic**: Monitors, probes; needs specialized non-immersive cleaning.

Empathize & Ideate - Stakeholder Needs

Patients

They expect and deserve infection-free care during their hospital stay. Sterile processing is vital for meeting this expectation.

CSSD Staff

They need clear protocols and safe cleaning agents to perform their duties. This ensures a safe working environment.

Clinicians

They require reliable and sterile equipment delivered on time for patient care. This is crucial for successful medical procedures.

Ideation

- Standardized cleaning SOPs per equipment type.
- Automation for complex instruments.
- Training for material-specific cleaning.

Prototype & Test - Optimizing Cleaning

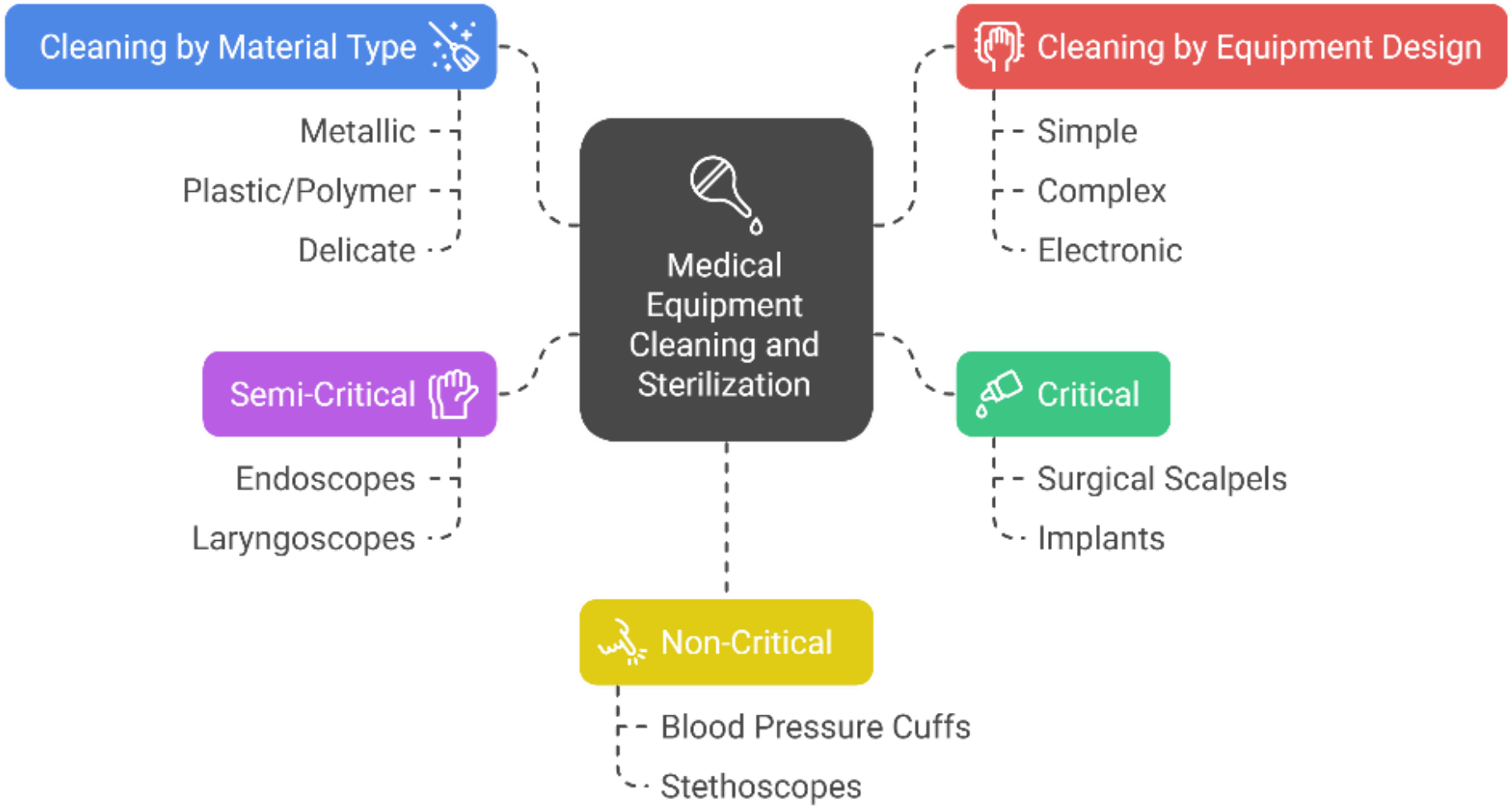
Prototyping Solutions

- Test automated washers for complex equipment.
- Pilot material-specific cleaning protocols.
- Trial digital tracking for cleaning compliance.

Testing Metrics

- Reduction in HAIs.
- Cleaning turnaround time.
- Staff feedback on protocol usability.

Summary


Medical Equipment Cleaning and Sterilization
Cleaning by Material Type
Metallic
Plastic/Polymer
Delicate
Cleaning by Equipment Design
Simple
Complex
Electronic
Semi-Critical
Endoscopes
Laryngoscopes
Critical
Surgical Scalpels
Implants
Non-Critical
Blood Pressure Cuffs
Stethoscopes

References

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- Association for the Advancement of Medical Instrumentation (AAMI). (2020). *ANSI/AAMI ST79: Comprehensive Guide to Steam Sterilization*.
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THANK YOU