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WEBINAR SERIES#4

Applying Lean principles at the OR to improve MD reprocessing

Efficiency

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CONTINUOUS MEDICAL EDUCATION WEBINARS

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WEBINAR 2

intro

All over the world and in general, healthcare has an increasing financial burden, because population ages, and needs more health care, for longer time, or on the other hand because technology evolves, and to provide better quality of life, has higher costs; the trend is increasing cost.

Besides healthcare market is more competitive and patients more informed and demanding. On the other hand, evidence demonstrates that in the health care area, 30-40% of costs are waste - pure and simple.[1]
Improving the efficiency and effectiveness of medical device reprocessing is one component of the solution for providing more and better healthcare.

The operational response to this challenge must be to reduce the number of activities or tasks that do not add value to the process (simplifying it), in order to make them "fat-free" (reducing actions that only consume resources, without adding value to the workflow and final result). This is the basis of the philosophy "Lean healthcare" management.

01. General LEAN principles

Operationalization of the concept "LEAN management" in the Operating Room (in the context of MD use and reprocessing), is based on the idea that the processes developed in this area of healthcare can be described as flows of sequential activities, where resources are placed to respond to the objective (MD - Medical Devices - reprocessing); in this sequence of activities, various forms of waste are classically recognized, classified as defects, excess production, stock, transport, unnecessary movements, rework, waiting and more recently talent or knowledge.

Why does **LEAN** Work in Healthcare?

- LEAN is not a list of tools that applies only to factories
- LEAN rallies people around goals we can all agree on: *Patients & Employees for Quality*
- LEAN is a philosophy of management that applies to any system

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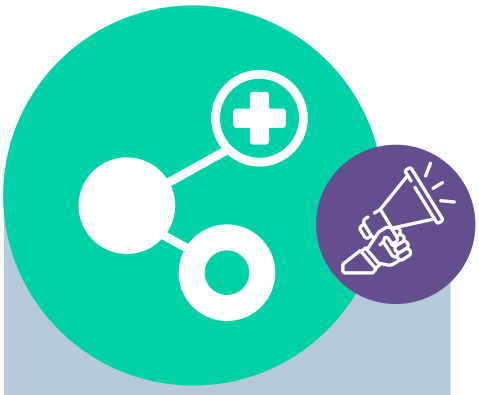
To combat the useless use of resources, the most commom used tools are Value Stream Mapping, "Kaban", "5S", space ergonomics, "poka-yoke" devices, kaizen events or the systematic monitoring of process indicators.
LEAN requires continuous thinking about progress, problem solving, and questioning the status quo (feeding continuous improvement).



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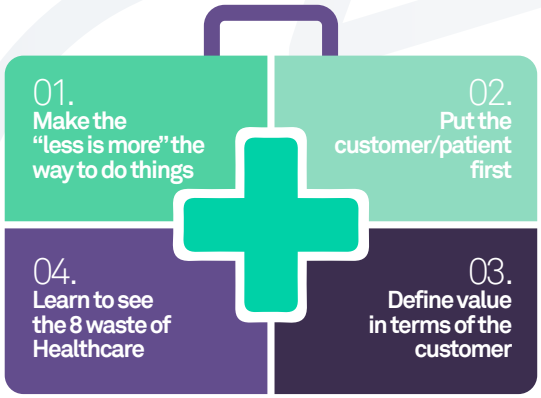
> ***"Improving the efficiency and effectiveness of processes, in a continuous way and focused on what has value for the customer, is the necessary answer."***

Basic Values of **LEAN** Healthcare



Applications of **LEAN** Healthcare

01 **Laboratories** | Reducing turnaround times and errors

02 **Emergency Departments** | Reducing diversions, improving the flow

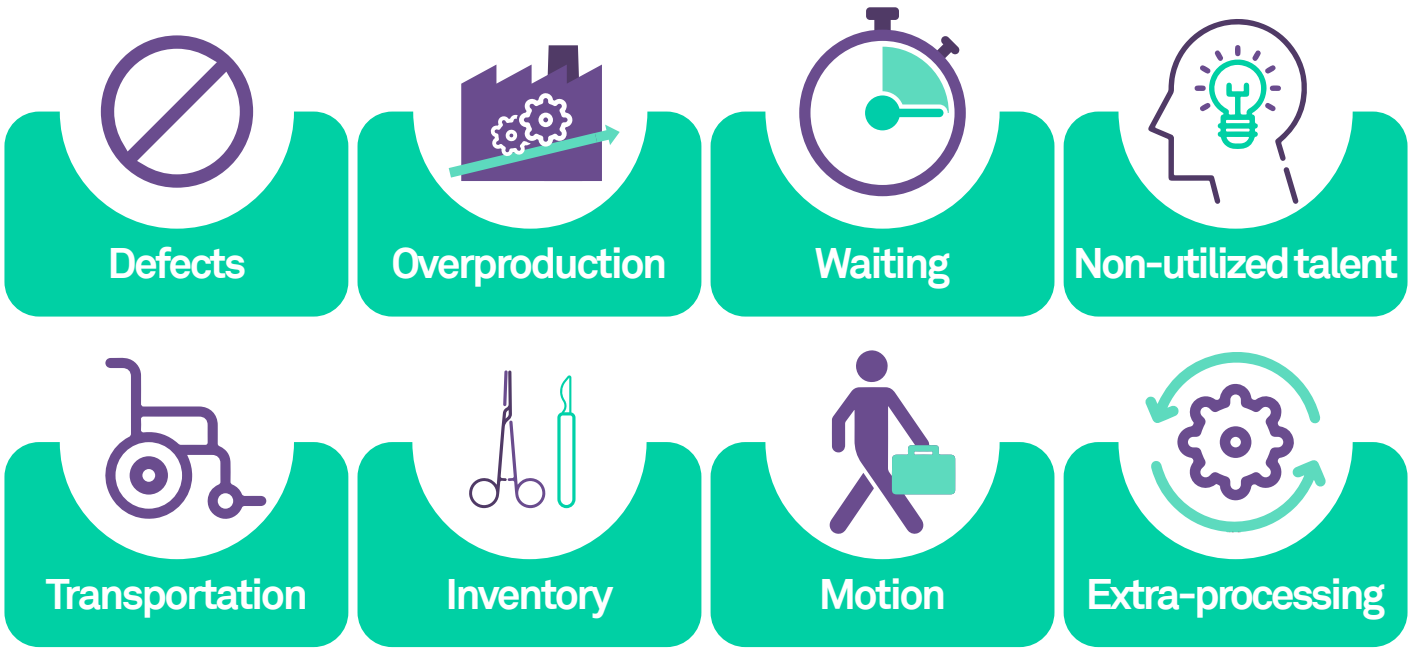
03 **Outpatient Cancer Treatment** | Reducing patients delays, increasing capacity

04 **Operating Rooms** | **Reducing changeover times, increasing response**

05 **Pharmacies** | Reducing errors, improving response

06 **Food Service** | Reducing wasted food, improving quality

8 TYPES OF "WASTE":
Wastes of LEAN manufacturing



02.Quality and standardization of procedures and processes

Every day, patients in need of surgical interventions, have aimed that their surgery will take place according to a pre-established plan (which conditioned their personal and professional life and also that of their family). This plan must be sufficiently weighted to ensure that the surgical program is carried out with a very high probability, without constraints, always based on the installed capacity of the hospital organization. The support processes necessary for the surgery are "calibrated" to respond to planned needs, with the minimum necessary resources and with standardized practices for process safety. All activities that constitute the surgical procedures are designed and established to guarantee with high probability that the treatment will have the best possible results at first time (free of complications, including SSI- surgical site infections).

Continuous monitoring of process and result indicators guide the way forward

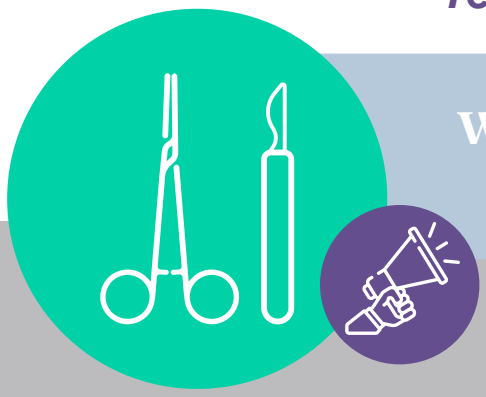
"Advance planning and normalization of processes are the key to surgical success and safety."

03. Reduction of waste associated with the management of surgical MD

The establishment of a standard of surgical activity is based on the investment in installed capacity, the costs of maintenance of capacity, the costs associated with the professionals needed for the activities to be carried out (e.g. time of OR activity, type of surgery to be performed and financing, etc.), the rate of efficiency and effectiveness of the process.

If we focus in particular on issues related to surgical instruments and the management of their use (quantity, type, reuse, etc.), efficiency approach models must take into account multifaceted strategies that respond to the surgical healthcare needs (OR outsourcing processes, MD volume reduction per surgery, single use / reprocessable MD weighting, installed capacity – surgical instruments, allocated time and surgeons, etc.).

> ***"All the parts that make up the jigsaw of the surgical activity must be taken into account in order to reduce process waste."***



Waste management is a daily activity that cuts across the entire surgical process.

04. Process improvement and pre-processing activities for MD reprocessing efficiency

Surgical activity bases its action on a group of professionals, who, in a concerted and synergistic way, develop their professional activity, with the aim of responding to surgical health care, in a timely manner, effectively and efficiently (always at first time and without defect and at the lowest cost).
The use and reprocessing of surgical MD is a significant part of this activity, due to the increasing complexity of MD, more challenging reprocessing protocols, associated with more demanding surgical procedures in increasingly severe patients.

Source: iStock-1168697920, iStock photo database accessed 20221108

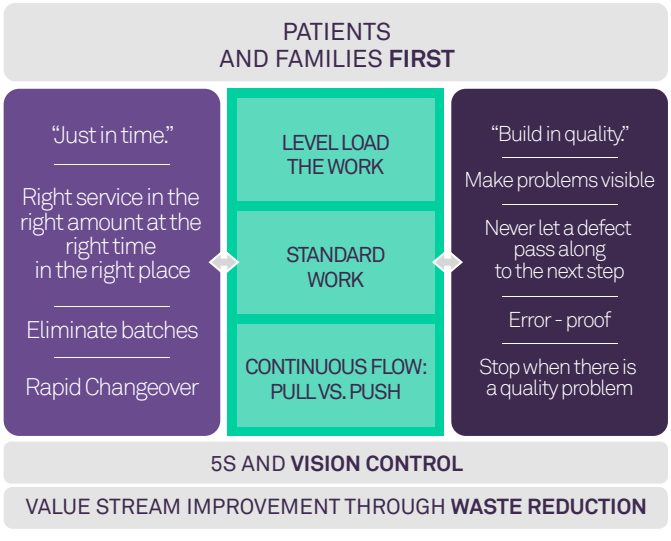
This process begins with the choice and purchase of the MDs, planning the local operationalization of the reprocessing protocols, systematization of practices, restarting at each use, optimizing post-use decontamination conditions, still in the operating room (eg dedicated teams, in-depth and up-to-date knowledge of MDs, intraoperative and post-procedure care functional maintenance of MD, efficient and effective workflows, adequate surgical volume, etc.).
The results of an investment of this type, can only be expected on the surgical results (eg. very low rates of surgical infection, high cost effectiveness, controlled surgical waiting lists) and development and research.

The MD reprocessing begins at the time of use

"The integrated view of the MD reprocessing (during use, prior to definitive reprocessing) optimizes activity conditions and benefits process efficiency / efficacy."

05. Integration of management processes for continuous improvement and efficiency

The maintenance of high productivity, effectivity and efficiency, has to be based on an organizational culture of continuous improvement.
This organizational model is fed on a daily basis with strategies and work tools that promote the alignment of teams with the organization's objectives.
The Lean philosophy has as its operational anchor the promotion of teamwork and leadership training (eg CRM - Crew resource management, "Gemba walks"), associated with daily operational planning (daily Kaizen), based on the measurement of performance indicators (eg. surgical cancellation rate, minutes delay in starting surgery, turn-over time, etc.).
Performance never results from chance, but from the daily and systematic organization of planned activities.



"The improvement of processes will always be the sum of actions combined with the synchrony of the real will of its actors (always led by top management)."

Performance never results from chance, but from the daily and sistematic organization of planned activities."

Resume

The adoption of a work methodology with a philosophical vision of operational action, meticulously organized and with personalized responses to the context, allows a change in results with infinite potential; despite a simplified methodology, intuitive operational principles and obvious results, it needs years of implementation and training of the actors (acculturation), so that the achieved objectives are not surpassed by the normal tendency towards chaos.

The organizational transformation that is pursued in this model, with a high return, can only be left free, after the work philosophy becomes the model of action of the actors and the matrix of institutional work.

The transformational adoption of the process management model makes the organization a standard of conduct that cannot be shaken.

01 **Looking at reality with an alternative matrix leads us to a new reality, with a high potential for improvement**

02 **Normalizing is not intended to constrain professionalism or a visionary streak, just to ensure that the expected result happens at first time**

03 **The awareness of results enhancement, is the lever and the fulcrum of the continuous improvement**

04 **The strategic simplicity of the LEAN philosophy cannot be confused with ease of implementation**

Take home MESSAGES

APPLYING **LEAN PRINCIPLES** AT THE OR TO IMPROVE MD REPROCESSING EFFICIENCY

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