



# Health Technology Assessment

FOR MEDICAL DEVICES  
REPROCESSING IMPROVEMENT.

THIS IS THE FIFTH OF FIVE WEBINARS DEDICATED TO MEDICAL DEVICE  
REPROCESSING PRESENTED BY ASP MEDICAL EDUCATION.

THE ROLE PLAYED BY HEALTH TECHNOLOGY ASSESSMENT (HTA) IN  
A MULTIDIMENSIONAL APPROACH TO PLANNING, MANAGING AND  
IMPROVING THE MD REPROCESSING CYCLE:

## Health Technology Assessment

Health technology assessment is a systematic and evidence-based methodology that considers the multiple dimensions (safety, effectiveness, economic and organizational aspects, as well as social, ethical and legal implications) of health care technologies (equipment, drugs, devices, procedures), by investigating four main factors: whether the technology works, for whom, at what cost, how it compares with the alternatives. This means that HTA can be applied to the medical instrument reprocessing cycle as a tool for improvement by measuring how changes in the process or novel methods compare to the current practice.

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**Operations management methods  
should be applied to planning and  
control of the process.**

## Effectiveness of MD reprocessing

Effectiveness is the goal of the reprocessing cycle and is the foundation of surgical site infection prevention. Compliance to standards and guidelines is a necessary but not sufficient condition in achieving the required objective: resources (staff and training, equipment and monitors) must be employed as quantitative elements of the process. Effectiveness can therefore be assessed and monitored through validation and traceability in order to implement an improvement cycle.

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**The reprocessing cycle as a  
whole can be assessed as a  
health care technology.**

## Planning and control

Given the sterilization department layout, which has specific requisites, activity and workflow are to be planned on the basis of measurable elements; these same figures are required for the control of the process so that it delivers the intended performance. The reprocessing cycle must be designed according to the service required (scheduled procedures, operating rooms, outpatient clinics, wards, etc.) while taking into account the available assets (staffing, equipment, instruments, etc.).

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**IFUs and  
training are key  
in reprocessing  
effectiveness.**

# MD reprocessing equipment and efficiency

Effectiveness and efficiency of the equipment are of fundamental importance for the outcome of the reprocessing cycle. In order to meet performance requirements equipment needs to be kept in efficient state and running condition at all time; this is achieved through specific management of the machines which involves selection, upgrading, use, maintenance and replacement of all the elements employed (decontaminators, washers/disinfectors, steam and hydrogen peroxide sterilizers, heat sealers, etc.). Productivity and efficiency of the cycle can be tracked, and therefore improved, by measuring the process rate and operating time of the equipment.

**Reliability is obtained with appropriate maintenance programs.**

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## MD and instrument management in reprocessing

The overall quality of reprocessing also depends on the condition of the devices being treated: all reusable medical devices and surgical instruments must be in good working order so that reprocessing can be effective. This depends on selection, sizing, inventory management and preventative maintenance programs; all these factors must be taken into account in order to avoid unplanned repairs and ensure that the goal of proving safe and effective instruments is met.

**Safe surgery cannot be performed without safe surgical instruments.**

### Resume

The application of HTA's multidimensional approach to the reprocessing of MDs allows making evidence-based decisions that take into account the complexity of the process; reprocessing involves the management of organizational (staffing and training), scientific (guidelines and standards) and material (equipment and devices) factors.

Planning and control, effectiveness and efficiency can all be appraised and improved by analyzing measurable elements of the process. Applying HTA methodology is a useful tool in the strive for continuous improvement in reprocessing.

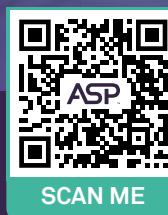
## Take Home Messages

1. HTA is a multidimensional methodology that allows a comprehensive and evidence based approach to MD reprocessing improvement.
2. HTA combines the appraisal of the technological, clinical, economic and organization factors of reprocessing.
3. Planning and control are key in order to meet reprocessing service requirements
4. Effectiveness depends on organizational factors as well as adequate equipment selection
5. Efficiency and reliability of the process are the result of equipment turnover and maintenance programs.
6. Effectiveness and efficiency also strongly depend on training and IFUs.
7. The management of reusable MDs and surgical instruments determines the overall outcome of reprocessing.

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