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## RECOMMENDATIONS

# French guidelines for enhanced recovery after elective colorectal surgery



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**Summary** Enhanced recovery after surgery provides patients with optimal means to counteract or minimize the deleterious effects of surgery. This concept can be adapted to suit a specific surgical procedure (i.e., colorectal surgery) and comes in the form of a program or a clinical pathway covering the pre-, intra- and postoperative periods. The purpose of these Expert Panel Guidelines was firstly to assess the impact of each parameter typically included in the fast-track programs on six foreseeable consequences of colorectal surgery: surgical stress, postoperative ileus, fluid and electrolyte imbalances, decreased postoperative mobility, sleep disorders and postoperative complications; secondly, to validate the value of each parameter in terms of efficacy criteria for success of rapid rehabilitation programs. Two primary endpoints were selected to evaluate the impact of each parameter: the duration of hospital stay and rate of postoperative complications. For some of the parameters, the lack of information in the literature forced the experts to assess the parameter using different criteria (i.e., the duration of postoperative ileus or quality of analgesia); improvement in endpoints favored the implementation of a rapid rehabilitation program. After analysis of the literature, 19 parameters were identified as potentially impacting at least one of the foreseeable consequences of colorectal surgery. GRADE<sup>®</sup> methodology was applied to determine a level of evidence and the strength of recommendation regarding each parameter. After synthesis of the work of experts on the 19 parameters using GRADE<sup>®</sup> methodology, the organizing committee reached 35 formal recommendations. The recommendations were submitted and amended by a group of reviewers. After three rounds of Delphi quotes, strong agreement was obtained for 28 recommendations (80%) and weak agreement for seven recommendations. Consensus was reached among anesthesiologists and surgeons on a number of tactics that are insufficiently applied in current rehabilitation

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programs in colorectal surgery such as: pre-operative intake of carbohydrates; optimization of intra-operative volume control; resumption of oral feeding within 24 hours; gum chewing after surgery; getting the patient out of bed and walking on D1. The panel also clarified the value and place of such approaches as: patient information; pre-operative immunonutrition; laparoscopic surgery; antibiotic prophylaxis; prevention of hypothermia; systematic medication to prevent nausea and vomiting; morphine-sparing analgesia techniques; indications and techniques for bladder catheterization. The panel also confirmed the futility of other methods such as: bowel preparation for colon surgery; maintaining a nasogastric tube; surgical drainage for colorectal surgery.

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## Introduction

### Definition

The concept of enhanced recovery is based on the fact that surgical aggression routinely causes hormonal, metabolic and physiologic modifications that retard convalescence, and therefore, interfere with the capacity of the patient to return home. The effects of this aggression can be amplified by extrinsic factors such as peri-operative fasting (hypocaloric intake several hours before operation and/or several days after operation), or the onset of medical or surgical complications. Intrinsic factors (active smoking, metabolic or cardiovascular disease, etc.) can also negatively influence the postoperative course and retard convalescence.

The goal is to allow the patient to recover his/her physical and psychic capacities as quickly as possible. All methods and measures that facilitate or inhibit obtaining this goal have been compiled in the literature and regrouped within a program (or clinical pathway) specific to the surgical procedure.

Enhanced recovery programs are multidisciplinary procedures that involve surgeons, anesthesiologists, and all members of the healthcare team. Other health care professionals can also participate in the elaboration and implementation of these programs such as nutritionists or physical therapists, for example.

Enhanced recovery programs start pre-operatively, when the surgeon first sees the patient and do not finish until the patient returns home. To evaluate the pertinence of these programs, the indicators usually taken into consideration

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