



# Colorectal cancer patients who increase their activity after surgery are more often recovered

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## We explored:

- The proportion of colorectal cancer patients that did not recover to their pre-operative physical functioning at six months post-diagnosis.
- The association between recovery of physical functioning and physical activity.

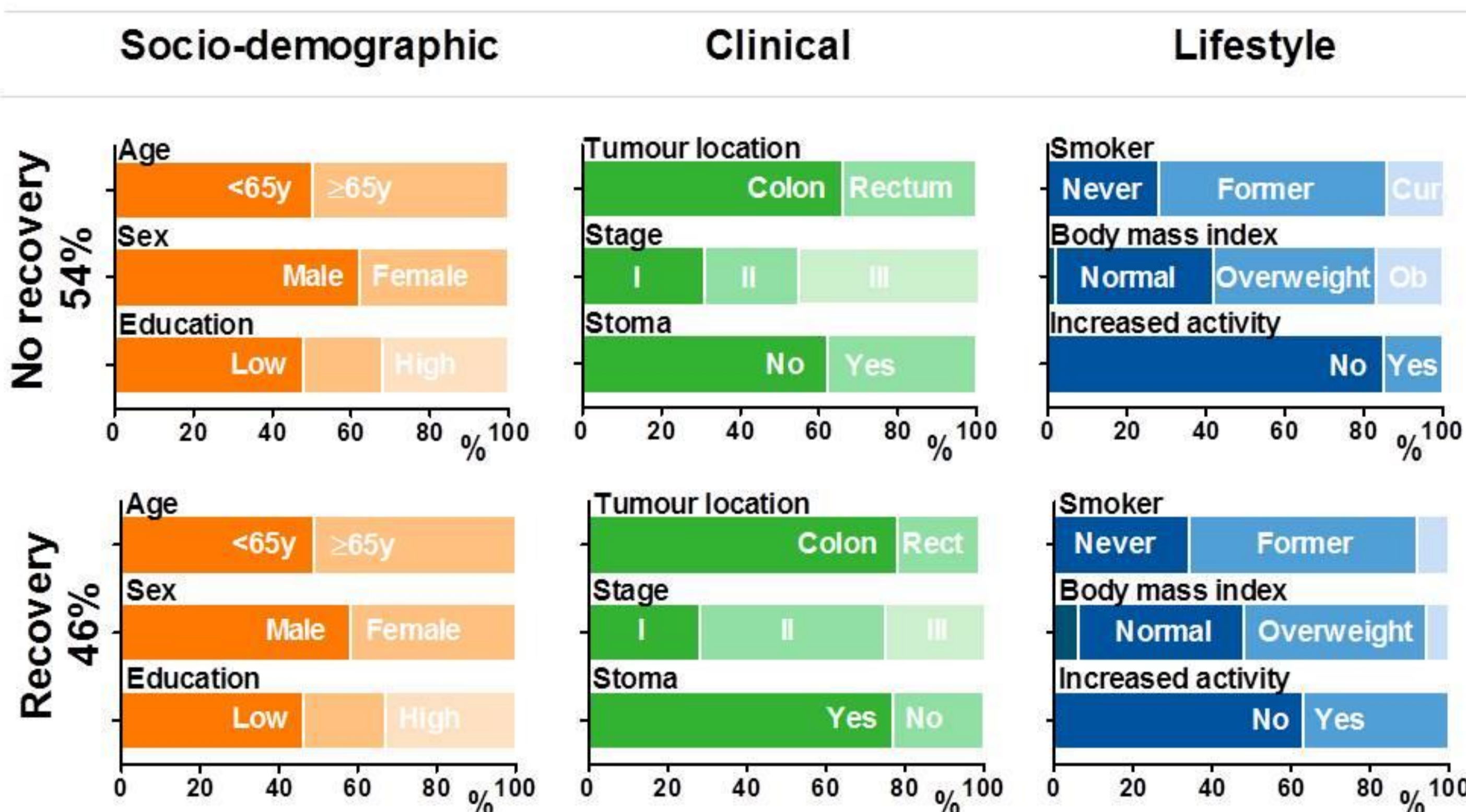
## We found:

- More than 50% of colorectal cancer patients did not recover to pre-operative physical functioning within 6 months.
- An increase in physical activity after surgery was associated with a higher proportion of recovered patients.
- This association was seen regardless of the absolute physical activity level before surgery.

## 1. Motivation

- About 50% of patients undergoing abdominal surgery do not recover to pre-operative physical functioning within 6 months. It is not clear if the same is true for colorectal cancer patients.
- Not recovered: decreased capacity to perform physical and daily routine activities
- Physical functioning can be influenced by physical activity, therefore recovery might also be influenced by physical activity.
- The influence of physical activity on recovery of physical functioning after colorectal cancer surgery is unknown.

## 2. Patient characteristics

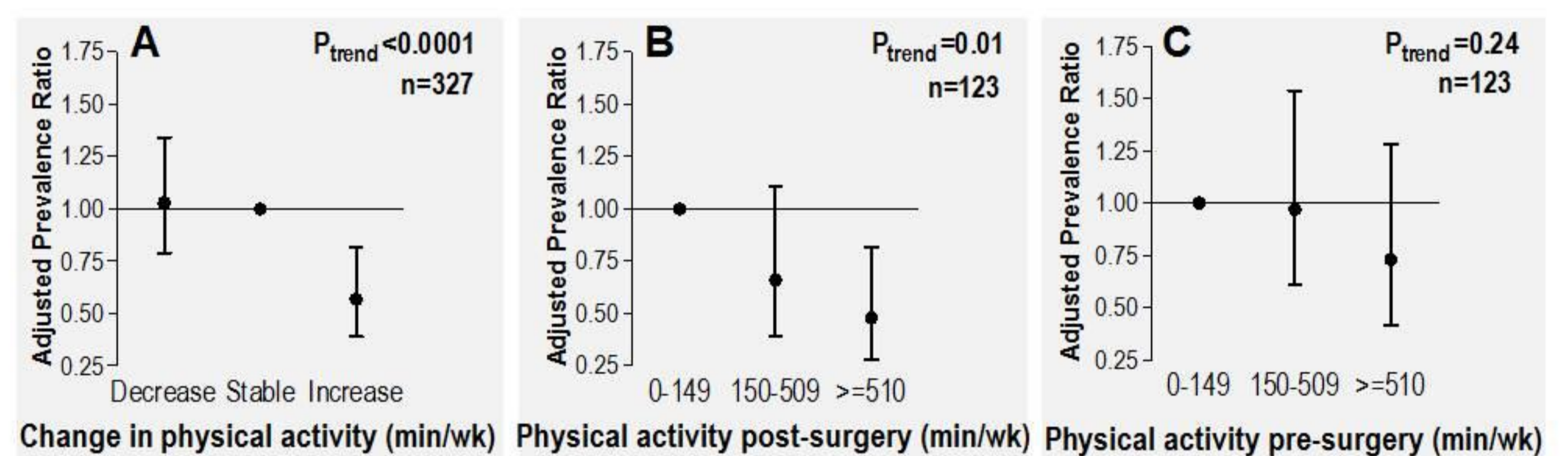


**Figure 1.** Characteristics of colorectal cancer patients who did not recover had unfavourable clinical and lifestyle characteristics compared with patients who had recovered to their pre-surgery level of physical functioning.

## 3. Data collection and analysis

- Questionnaires assessed physical functioning and moderate-to-vigorous physical activity both before and after surgery.
- Stable activity was defined as a change <60 min/week
- Cox regression models were used to calculate prevalence ratios of no recovery of physical functioning.
- All analyses were adjusted for age, sex, physical functioning before surgery, stage of disease, stoma and body mass index.

## 4. Both increased activity and higher activity levels after surgery were associated with recovery



**Figure 2A.** Patients who increased their activity after surgery were 43% more often recovered compared with those with stable activity level.

**Figure 2B.** Higher levels of physical activity after surgery were associated with recovery of physical functioning.

**Figure 2C.** Physical activity levels before surgery were not associated with recovery of physical functioning.

## 5. Increased activity was associated with recovery independent of pre-surgery activity level

**Table 1.** Analyses of the association of stable and increasing activity with recovery of physical functioning by pre-surgery activity level.

Physical activity (min/wk)	No. events/ at risk	Adjusted Prevalence Ratio (95% CI)
<b>Stable activity</b>		
Pre-surgery activity <150	12/20	1.00
Pre-surgery activity ≥150	13/22	0.91 (0.65-1.26)
<b>Increased activity</b>		
Pre-surgery activity <150	6/19	0.53 (0.29-0.97)
Pre-surgery activity ≥150	20/62	0.55 (0.39-0.78)

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