Canada

Idea

The prehabilitation programme was conceptualised at McGill University in 2007. The results of randomised controlled trials (RCT) supported the contention that the synergistic effect of the 3 components (exercise training, nutrition optimisation and stress management) can impact positively on functional capacity before surgery and the improvement can be sustained after surgery. As exercise is a potent anabolic factor, adequate nutrition is necessary to stimulate protein synthesis thus leading to increase in muscle mass and force. Similarly, the impact of anxiety and depression on functional capacity limits patient engagement and resiliency, therefore stress management and counselling empower patients and encourage participation.

Suggestion: To commence prehabilitation, you need to review the literature, start with a small group, have a surgeon who will support your endeavour and have passion and determination to succeed.

Team

As the prehabilitation programme evolved towards a multimodal, holistic, and integrated with the preparation to surgery, a dietitian and psychosocial trained personnel in stress management were included in the team along with a perioperative physician and two exercise physiologists. A smoking cessation technician, an internist and a geriatrician were consulted when needed. Graduate (Master, PhD, and Postdoc) students in exercise science, nutrition, psychiatry and experimental surgery were successful in obtaining grants.

Suggestion: Prehabilitation requires a cohesive team where everyone in the team is valued for the contributions to the programme's success. Each team member assesses the patient and together recommends a prehabilitation prescription for each patient.

Business case

Over the last 3 years we have seen an increase in surgical referrals reaching 150-200 cases per year.

Initially we could not afford to see all these referrals and we limited staff to two full time exercise physiologists, a part time dietitian, two volunteer retired psychosocial-trained nurses

for stress management and one volunteer for social and administration activities (website, newsletter, payroll). These activities were funded following set up of a non-profit foundation Peri Operative Programme with donations from patients and other charitable foundations. An annual gala dinner has been able to raise sufficient funds to cover the present costs. Currently there is considerable interest from the hospital in upgrading the prehabilitation unit to a clinic with full access to the hospital network.

Suggestion: Convincing hospital management that prehabilitation is saving money might be hard work at the beginning however they will help you as you show the value of the programme. Do not undervalue the help of patients who can act as programme ambassadors.

Programme

We developed a framework including the frail, the sedentary, the malnourished, the socially disadvantaged and those patients scoring highly for depression and anxiety, who would have specific impairments requiring detailed selected intervention. A screening procedure has been introduced whereby patients are screened for functional capacity, nutritional status and psychosocial status and prescriptions are tailored.

Suggestion: 'One does not fit all'. There is a need to assess patients using validated metrics and plan appropriate interventions to maximise the benefits and control costs.

Initial pilot

Our first multimodal prehabilitation study evaluated feasibility, effectiveness, and the synergistic interaction of the three components. Colorectal cancer surgery was chosen as we were familiar with some aspects of the perioperative trajectory. 40 patients were chosen, and results were compared with another group who did not receive prehabilitation.

Suggestion: Choose a surgical model you feel familiar with and in agreement with a surgeon. Prepare a pragmatic, feasible protocol with your team. Identify an outcome meaningful to the patient (e.g. functional outcome: walking, able to conduct daily activities; compliance to the protocol, length of hospital stays, return to baseline). Collect and analyse your data carefully (including non responders) involving the whole team. Evaluate the barriers patients might encounter when asked to exercise.

Scaling up

We learnt to identify priorities in our programme and start screening patients. This has helped identify those patients who could be independent and working from home or in

the community gym. Those in need of more personalised and structured prehabilitation are brought to clinic and closely supervised, with progress monitored. A recent tele-prehabilitation project has been started to reach those patients who are far from the hospital, those who are older, isolated and the socially disadvantaged.

Suggestion: Make sure you know your patients well and feel comfortable they can do exercises at home without supervision. Working together with a community centre could be useful when patients cannot or do not wish to travel. Ensure you establish contact with them in case they need you and to determine whether they are compliant to the exercise training, the nutrition counselling and relaxation techniques.

Implement integration with the preoperative clinic

Over time our prehabilitation clinic became more and more integrated with our preoperative clinic and some patients are directly referred at the time of the preoperative visit. The time

interval to surgery might be short. If necessary, the surgeon is informed, and the surgery is put on hold until the patient is considered able to sustain the surgical insult. It is important to develop screening protocols with cut offs (e.g. Dukes Activity Status Index (DASI) less than 34, significant loss of weight, abridged patient generated – subjective global assessment over 4) whereby patients are referred for evaluation, risk assessment, and if necessary, receive a tailored interventions.