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Ambulation protocols leading to decreased postoperative complications and hospital stay

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Background

In the postoperative course, patients are routinely encouraged to ambulate as frequently as possible. Typically in the hospital this can become burdensome to the staff and often becomes low priority. Patients are also not aware of the frequency and quality of the ambulation that is sufficient in the postoperative period. At present, patients on the surgical floor who are completely independent and without any devices (eg. Oxygen, nasogastric tubes, chest tubes) are freely able to ambulate at will although there is no reliable way to track this progress. Other patients with devices are limited to waiting for nursing or ancillary staff to assist them with securing the devices that they require in the postoperative period. Ambulation has been positively associated with decreased postoperative complications ranging from bowel function to deep venous thrombosis to pneumonia.

Proposal and Goals

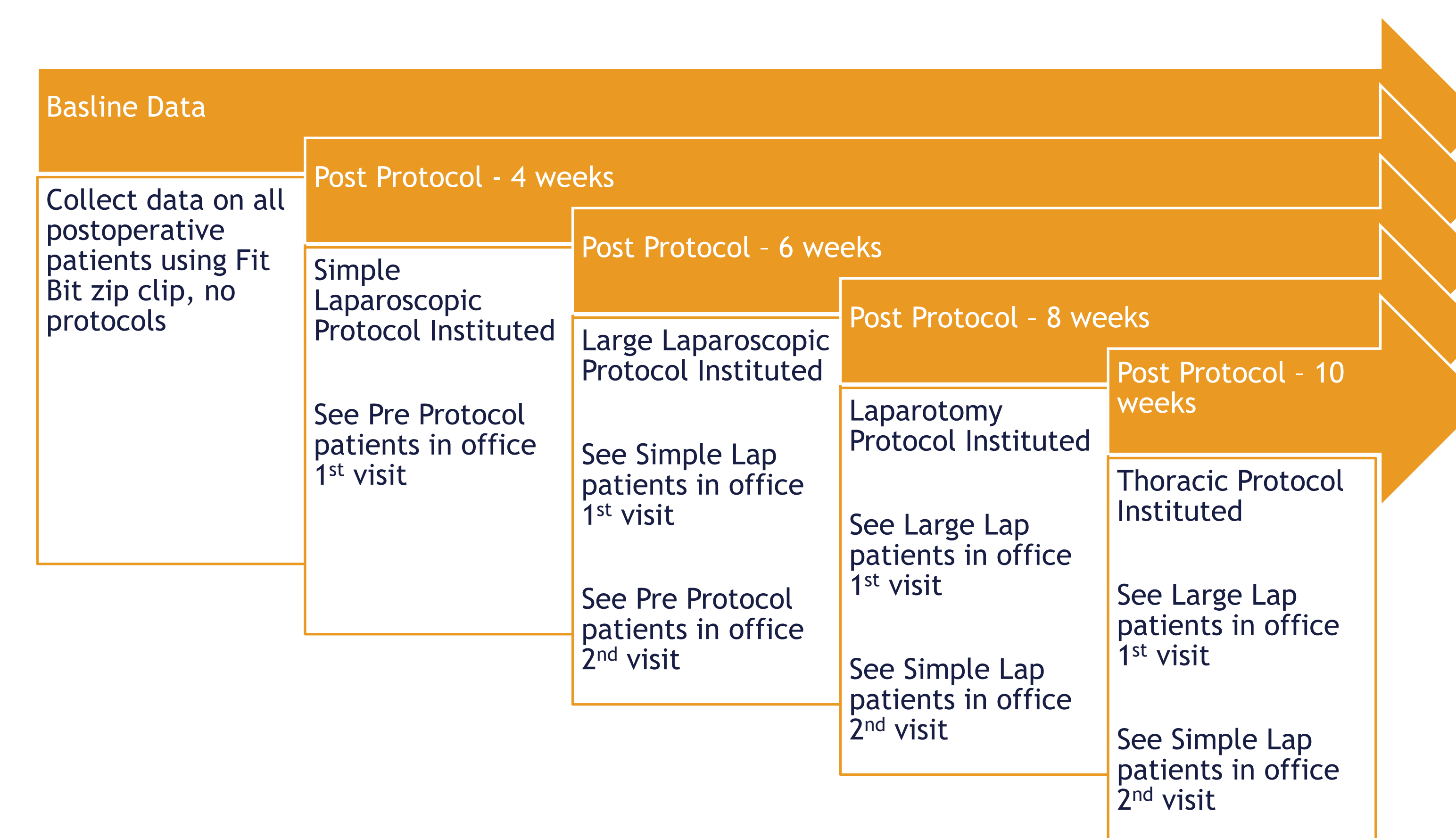
The goal of the project is to establish standardized protocols for each type of surgery, approved by the attendings, for the amount and duration that patients are expected to be both out of bed and ambulating in the immediate postoperative period in order to minimize several postoperative complications. Data collection will run for a minimum of two months with changes being seen at that time. Barring any major barriers to instituting the ambulation protocols, the initial project should be complete after five months. Overall goal is decreased postoperative complications. Other project goals would be to ensure that protocols are being followed and encourage patient driven care to help motivate patients by keeping them involved in their recovery. Instituting the protocols would also ensure that residents, nursing, ancillary staff, patients and their family members are all aware of how often they need to be ambulating. Once the patients are ambulating according to the protocols, we will perform a prospective analysis for one month post-operation to determine what complications the patient had and how long their hospital stay was.

Methods

Patients will be enrolled into the data collection based on their procedure. Categories are as follows; Simple Laparoscopy, Large Incision Laparoscopy, Laparotomy, Thoracic Surgery, Lower Extremity Bypass and Conservative Management. Each enrolled patient will receive a FitBit zip clip©. The patients will wear the clip continuously for up to five days postoperatively. Inpatient data collected will include procedure category, postoperative day, number of steps, calories burned which should account for patient age, sex, height and weight, invasive lines and tubing and who helped ambulate the patient. The patient will then be seen two weeks post-op and four weeks post-op with careful documentation of any complications they may have had.

Meanwhile, the team will design a standardized algorithm for each category which includes how often patients should be ambulating based on the postoperative day and procedure performed. Once baseline data is collected in the first month, patient forms containing the formal protocol will be handed out upon arrival to their room which the patient, nurse and ancillary staff will fill out as the day and week progresses. The form will include the protocol at the top to avoid confusion and will have the time the patient ambulated, the amount of steps taken and which person, if any, assisted in their ambulation. There will be an area that also indicates any devices the patient has on that day as well.

We will start with one category at a time and as the protocols are being utilized, and will sequentially add each category in two week blocks as long as there are no major identified barriers to utilizing the protocols in the first week. We will then collect data for each category for a one month period after starting the new protocols, again seeing the patient at two and four week postoperative visits.



Future Direction, Next Steps

Once barriers to ambulation and complications have been identified, we can move our research forward using the “Plan, Do, Study, Act” (PDSA) format within each area. Goals would include things such as identifying who helps patients ambulate, how patients do based on the time of the completion of their surgery, how much devices really preclude ambulating and which ones need to be modified. If any new complications were identified on the post-protocol group, these will need to be assessed. We can continue to monitor patients from the first few months as well and see if there are other longer term benefits to early and more specific ambulation.

Acknowledgements / Select References

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Basline Data

Collect data on all postoperative patients using Fit Bit zip clip, no protocols

Post Protocol - 4 weeks

Simple Laparoscopic Protocol Instituted

See Pre Protocol patients in office 1st visit

Post Protocol - 6 weeks

Large Laparoscopic Protocol Instituted

See Simple Lap patients in office 1st visit

See Pre Protocol patients in office 2nd visit

Post Protocol - 8 weeks

Laparotomy Protocol Instituted

See Large Lap patients in office 1st visit

See Simple Lap patients in office 2nd visit

Post Protocol - 10 weeks

Thoracic Protocol Instituted

See Large Lap patients in office 1st visit

See Simple Lap patients in office 2nd visit