# Research Week 2021

# Pilot Study to Evaluate the Safety, Feasibility, and Potential Impact of an At-Home Surgical Drain Removal Program

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## Abstract

### Background

Surgical drains are placed during abdominal wall reconstruction to reduce surgical site complications. Drains are typically removed by the surgical team or local providers closer to patients' residences. We describe a virtual drain removal option for patients undergoing advanced hernia repair to alleviate the burden of drain removal on patients.

### Methods

We performed a retrospective review of 55 consecutive abdominal wall reconstruction patients discharged with surgical drains between May 2020 and March 2021. Demographics, diagnosis, procedure, and drain removal strategy were reviewed. Based on these findings, a structured at-home patient-performed drain removal program was developed to include in-person and video instruction on drain removal, supplies, and digital monitoring during the time of at-home drain removal. Outcomes for patients undergoing virtual drain removals were summarized to understand their efficacy with respect to postoperative outcomes.

### Results

In retrospective review, indications for operative repair included ventral (73%), parastomal (22%), flank (4%), and inguinal hernias (2%). Drains were placed in the retromuscular and subcutaneous position for all patients. Drains were removed by either the operating surgeon/team (67%), local provider (18%), or by the patient/family member during a telehealth encounter (15%). All drains were removed within 3 weeks of surgery. Using a traditional drain removal strategy resulted in an average of 1.5 clinic visits/operation, with median commute of 73 miles/clinic visit. Patients enrolled in our virtual drain removal program had significantly reduced clinic utilization, with only 0.4 postoperative clinic visits/operation. No drain related complications were identified among patients.

### Conclusion

An at-home, patient-performed surgical drain removal program demonstrates potential as a novel and safe approach to traditional drain management and may reduce perceived barriers to accessing centers serving a large geographic catchment.