

# Grand River Hospital Reduces Length of Stay, ER Visits and Readmissions by Launching Digital Care Journey Platform for Hip and Knee Surgery

## Hip Surgery Key Results:

- ↓ 89% 30-day Readmissions
- ↓ 62% 30-day ER Visits
- ↓ 29.8% Average Length of Stay
- ✓ 95% of patients would recommend SeamlessMD
- ✓ 89% of patients reported SeamlessMD made them more confident during recovery

## Knee Surgery Key Results:

- ↓ 26% 30-day Readmissions
- ↓ 43% 30-day ER Visits
- ↓ 10.5% Average Length of Stay
- ✓ 94% of patients would recommend SeamlessMD
- ✓ 90% of patients reported SeamlessMD made them more confident during recovery

“SeamlessMD is a very user-friendly platform that helps to enhance communication between our patients and care team,” explains Dr. Matthew Snider, orthopaedic surgeon at Grand River Hospital. “In the data available to us through the dashboards, we can efficiently track patient recovery at home, and address any post-surgical complications.”



**Dr. Matthew Snider,**  
Orthopaedic Surgeon,  
Grand River Hospital

Grand River Hospital (GRH) is one of Ontario's largest community hospitals with 665 beds and provides innovative, quality care to more than 840,000 residents of Waterloo Region and Guelph Wellington. GRH is a leading healthcare organization, offering surgical services; cancer and renal (kidney) services; care for the most seriously ill and injured adults; services for mothers, newborns, and children; emergency care; mental health and addictions; and care for older adults including rehabilitation. The hospital is privileged to be a key partner in health sciences learning and has a rapidly growing role in teaching and research.

## Leveraging a Clinically Validated Digital Care Journey Platform to Optimize the Patient Experience and Improve Patient Safety

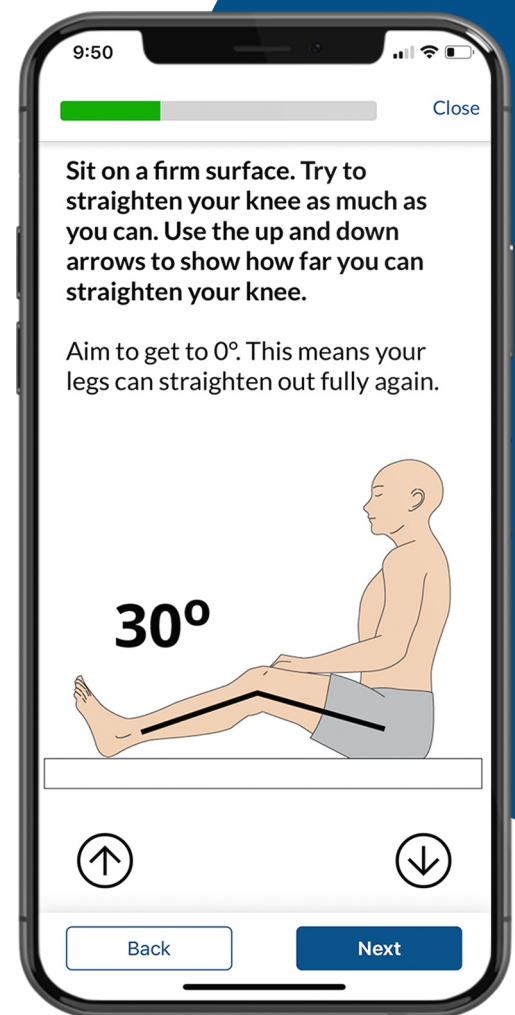
With a vision to create a world-class health system and a mission to deliver exceptional care to both urban and rural patient populations, in 2021 Grand River Hospital partnered with SeamlessMD, a leading Digital Care Journey solution, to launch a surgical remote monitoring platform to support patients undergoing hip or knee replacements. GRH was the first hospital in Southeastern Ontario to implement SeamlessMD as part of Ontario Health's Remote Patient Monitoring initiative to expand access to care from home and minimize in-person surgery visits.

Since the initial launch of the hip and knee care pathways, Grand River Hospital has expanded its use of SeamlessMD for colorectal surgery.

## Collaborating with SeamlessMD to Customize Digital Care Journeys

When implementing this evidence-based care plan for hip and knee surgery, SeamlessMD worked closely with the Grand River team to customize protocols and content on the platform, which enabled the care team to:

- ✓ Engage patients with a mobile and web-enabled, virtual companion – guiding them from pre-admission preparation through post-discharge recovery
- ✓ Deliver evidence-based pathways in the form of multimedia education, reminders, and tasks
- ✓ Monitor patient compliance, symptoms, and recovery progress (e.g., knee range-of-motion, pain levels, incision photos, etc.)
- ✓ Remotely monitor patients through daily health checks during the 30-day postoperative period
- ✓ Digitally collect Patient-Reported Outcomes (PROs)
- ✓ Automate patient self-care guidance via smart algorithms and workflows (e.g., education on how to manage low-risk issues or when to escalate to a provider); and
- ✓ Receive alerts and monitor dashboards to identify when a patient's health status changes, enabling the care team to intervene sooner.



Example Patient Post-op Health Check

“In just seven months, we’ve been able to reduce readmissions, length of stay, and ER visits as well as receive an overwhelmingly positive response about SeamlessMD from our patients and staff. SeamlessMD provides an effective alternative to in-person care that helps us optimize the patient experience, increase operational efficiencies, and improve patient quality and safety,” says Lisa Buttazzoni, Program Director of Critical Care and Surgical Services at Grand River Hospital. “The implementation of the technology supports our digital health mission by supercharging our ability to stay connected with our patients, regardless of where they live.”



**Lisa Buttazzoni,**  
Program Director of Critical Care and Surgical Services,  
Grand River Hospital

# Improving Patient Engagement & Satisfaction

SeamlessMD provides patients with the tools to be able to effectively self-manage from home and be more proactive in their healthcare. Patients actively engaged on SeamlessMD feel less anxious and more connected to their care team throughout their care journey.

## Here is what patients like most about the program:

- "Easy to move through the various stages to prepare for surgery and post-surgery recovery requirements. SeamlessMD helped me keep on track with what I should be doing especially during recovery. Excellent "assistant" for my two surgeries and I strongly recommend SeamlessMD to everyone facing surgery!!!"*
- "This program was a "motivator" for me to do all that it asked of me including exercises & walking! I know that the program was very beneficial to my rehabilitation which has been great! The program was very easy to use / follow even for me as a 73 year old. Fortunately I am computer literate but for those who are not I believe the program is very easy to follow!"*
- "The program appears to be monitored in real time, at least on weekdays. I received 2 calls from the program coordinator shortly after filling in the questionnaire which I felt was extremely proactive and relieved my concern for the downturn in my ability to control my pain. This was extremely helpful to me. Excellent program!"*

## Results

### 1. Hip Surgery Outcomes Analysis

	Control (n=65)	SeamlessMD (n=147)	Relative change
30-day readmission rates (%)	6.15% (4/65)	0.68% (1/147)	↓ 89%
30-day ER visits	10.77% (7/65)	4.08% (6/147)	↓ 62%
Average Length of Stay (in hours)	85.24	59.79	↓ 29.86% or ↓ 25.45 hours
Mean Length of Stay (In hours)	58.95	41.55	↓ 29.51% or ↓ 17.40 hours

2. Knee Surgery Outcomes Analysis

	Control (n=122)	SeamlessMD (n=248)	Relative change
30-day readmission rates (%)	1.64% (2/122)	1.21% (3/248)	↓ 26%
30-day ER visits	15.57% (19/122)	8.87% (22/248)	↓ 43%
Average Length of Stay (in hours)	63.80	53.23	↓ 16.57% or ↓ 10.57 hours
Mean Length of Stay (In hours)	48.58	36.44	↓ 24.99% or ↓ 12.41 hours

3. Improved Patient Engagement and Satisfaction

Metric	Result
% Patients who recommend SeamlessMD	95%
% Patients who said SeamlessMD helped them feel more confident pre-procedure	92%
% Patients who said SeamlessMD helped them feel more confident post-procedure	90%
% Patients reported that SeamlessMD prevented 1 or more calls to the hospital	35%

