Transition of Care Protocol from Emergency Department to Stone Clinic Improves Non-operative Management

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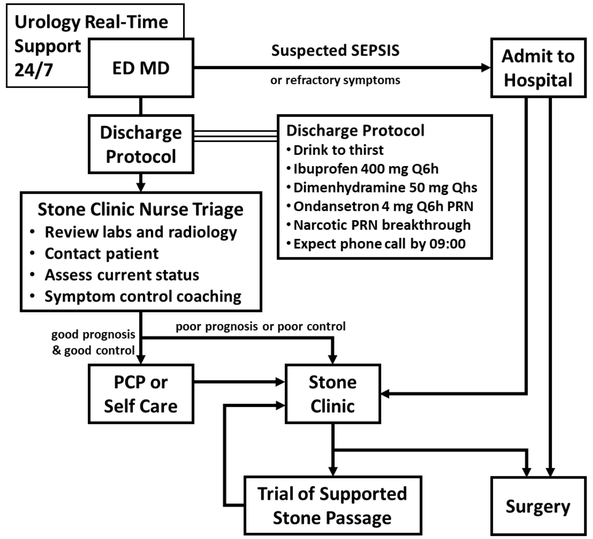
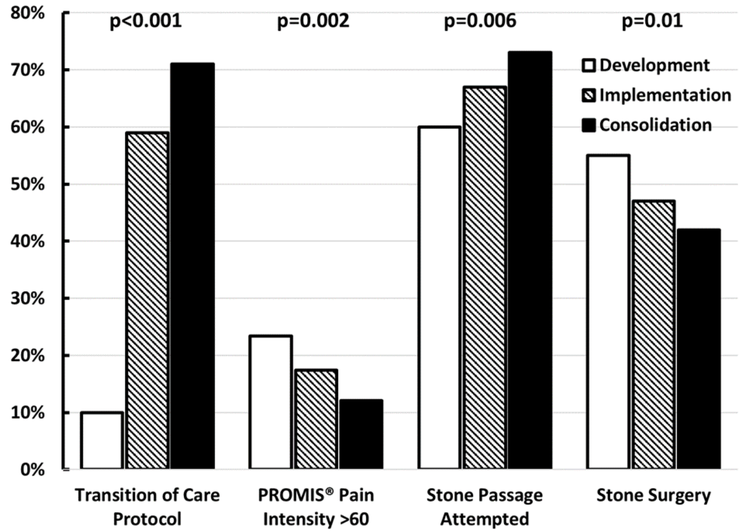
Introduction

More than a million American stone patients present to Emergency Departments (ED) on an annual basis. They will obtain a diagnosis and control of their symptoms, but they will not achieve resolution. That resolution will occur at some later time, on their own, with their primary care provider, or under care of a urologist. The transition from the ED to after care is typically disjointed and occurs at a time of diminished capacity for the patient, who just a few hours previously had considered themselves to be healthy before the unanticipated intrusion of disabling renal colic.

We have reported that the decision between non-operative and operative management is negatively influenced by the patient pain experience which can be objectively measured by the NIH sponsored Patient Reported Outcome Measurement Information System® (PROMIS®).

As an element of a formal continuous, quality improvement program under auspices of Joint Commission Disease Specific Care certification, we developed and implemented a transition of care protocol in collaboration with our health system's ED. The goals were to facilitate continuity of care and consistently introduce a minimal narcotic symptom control strategy beginning at time of ED discharge.

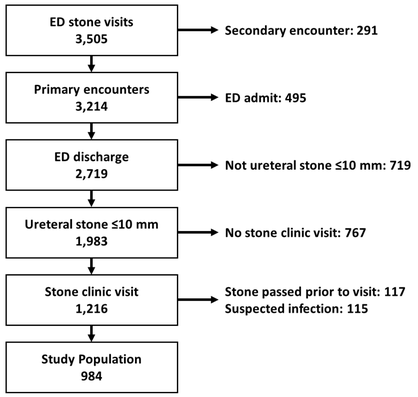




Conclusions

1. When provided with the opportunity, ED Physicians initiated a transition of care protocol
2. With adoption of transition of care protocol, PROMIS® pain scores decreased in patients presenting to stone clinic
3. Improved PROMIS® pain scores were associated with more patients attempting stone passage and decreased overall stone surgery
4. Patients served by transfer of care protocol were less likely to fail attempted stone passage
5. Overall stone surgery decreased with implementation of transition of care protocol

Patient Flow



Patient Characteristics and Outcomes

	Development Phase	Promotion Phase	Consolidation Phase	p
n	278	316	306	
Start date	6/1/2014	3/1/2015	2/1/2016	
End date	2/28/2015	1/31/2016	12/31/2016	
Age (y)	50.5±16.4	49.1±15.3	48.5±15.6	0.306
Male	58.3%	57.9%	61.2%	0.564
Stone size (mm)	4.8±2.1	4.8±2.0	4.6±2.0	0.644
Proximal location	50.3%	47.5%	47.3%	0.718
ED to clinic (days)	3.8±4.7	3.3±3.9	3.1±3.7	0.083
Transition protocol initiated	10.4%	58.9%	70.6%	<0.001
PROMIS® pain >60	23.8%	17.4%	12.1%	0.002
Stone passage attempted	60.8%	66.8%	73.2%	0.006
Failure of attempted passage	23.9%	20.8%	22.5%	0.841
Overall surgery	54.7%	46.8%	42.2%	0.010

Multivariable Analysis

Variable*	Referent	Odds Ratio	95% CI	p
Stone Passage Attempted				
Implementation phase	Development phase	1.47	1.00-2.17	0.051
Consolidation phase	Development phase	1.92	1.28-2.85	0.001
PROMIS pain >60	PROMIS pain <60	0.32	0.21-0.50	<0.001
Transition protocol initiated	No transition protocol	1.36	0.99-1.89	0.060
Failure of Attempted Stone Passage				
Implementation phase	Development phase	0.66	0.40-1.10	0.113
Consolidation phase	Development phase	0.79	0.48-1.28	0.334
PROMIS® pain >60	PROMIS pain <60	1.39	0.77-2.45	0.271
Transition protocol initiated	No transition protocol	0.58	0.39-0.87	0.009
Overall Stone Surgery				
Implementation phase	Development phase	0.64	0.44-0.94	0.022
Consolidation phase	Development phase	0.56	0.38-0.83	0.003
PROMIS® pain >60	PROMIS pain <60	2.28	1.50-3.47	<0.001
Transition protocol initiated	No transition protocol	0.60	0.44-0.81	0.001

* Controlling for age, sex, stone size, stone location

HealthEast Care System