Development of a Decision Support Tool to Guide Management of Adults with Sickle Cell Disease: The Emergency Department Sickle Cell Assessment of Strengths and Needs (ED-SCANS)

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BACKGROUND

Introduction

- Patients and emergency department (ED) clinicians are often frustrated with the ED experience.
- In addition to having pain crises, SCD patients are at risk for many life-threatening complications and an ED visit is often a high risk situation.
- All patients with SCD warrant a comprehensive assessment during their ED visit.
- A succinct decision support tool may help guide clinicians in the performance of such an assessment.
- Such a tool may identify unmet patient needs and help guide ED management and referrals.

Objectives

- To develop a brief, easy to use tool that guides the emergency clinicians in the identification of such needs and aids in accomplishing the following goals:
  - Rapidly and aggressively manage ED pain
  - Identify other life-threatening conditions
  - Decrease hospital admission rates
  - Decrease return visits to the ED
  - Identify and increase the number of referrals made from the ED setting
  - Increase both patient and clinician satisfaction with the ED experience

METHODS

Study design

- A series of seven clinician and patient focus groups were conducted in four cities across the United States to obtain key stakeholder input.
  - 3 EM physician groups
  - 2 EM nursing groups
  - 2 SCD patient groups
- The PI visited three SCD centers of excellence and attended SCD clinics to observe practice patterns of sickle cell experts.
- Focus group data was analyzed using qualitative methods.
- A draft tool was created and reviewed by the mentoring panel and then sent to a separate group of national SCD and EM experts for further comment.
- Additional revisions were made.

CONCLUSIONS

- Seven distinct decisions and supporting elements to optimize ED management were identified.
- Future work will involve reliability and validity analysis.
- This tool will be helpful to individual clinicians for an individual patient.
- It can also be used to guide overall ED management using quality improvement processes.

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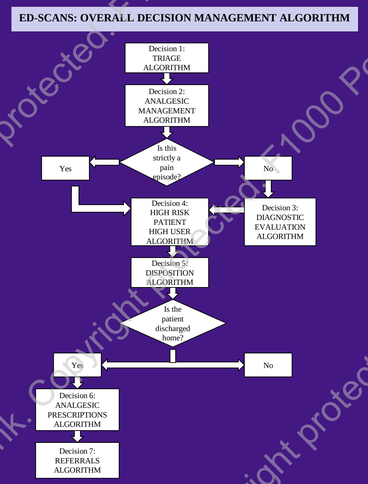
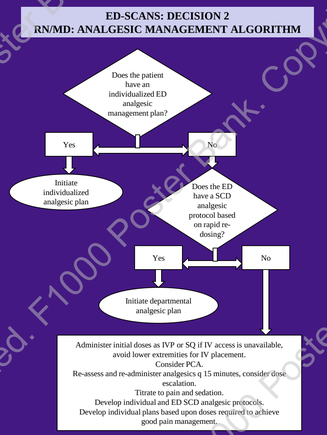
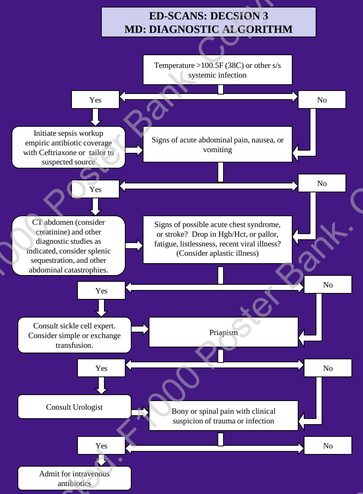
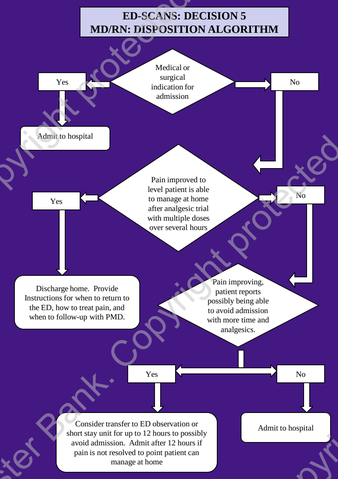
RESULTS: Sample Decision Algorithms









One Page Summary Reference

Variable	Yes	No
Decision 1: Triage Algorithm		
Temperature >100.5 (38.5C)		
RR >22 or SaO2<93%		
HR <50 or >100		
Atypical (new or generalized pain), chest or abdominal pain, or shortness of breath		
Headache, confusion, neurological deficits, seizures		
Pain 7/10 or greater		
Decision 2: Pain Assessment and Analgesic Management Algorithm		
Does the patient take opioids on most days?		
Did the patient run out of analgesics?		
Are prescribed analgesics working at home?		
Does the patient have an individualized ED analgesic management plan?		
Does the ED have a SCD analgesic protocol based on rapid re-dosing?		
Decision 3: Diagnostic Evaluation Algorithm		
SaO2 <93%, SOB, respiratory distress or tachypnea		
Temperature >101F, or signs/symptoms of systemic infection		
Signs of stroke		
Evidence of possible acute chest syndrome		
Signs of acute abdominal problem, nausea or vomiting, priapism or GU infection		
Pallor, fatigue, listlessness or drop in Hgb/Hct		
Bony or spinal pain with clinical suspicion of infection or trauma		
Decision 4: High risk patient, or high utilizer algorithm		
Does the patient not have a physician?		
Does the patient have >3 painful episodes/year, or >3 ED visits or hospitalizations/year?		
Is the patient pregnant?		
Decision 5: Disposition Algorithm		
Is the pain reduced to a level the patient reports being able to manage at home?		
If not, is the pain improving?		
Is the diagnostic workup negative of significant acute pathology?		
Decision 6: Analgesic Prescriptions Algorithm		
Did the patient run out of analgesic prescriptions?		
Are prescribed analgesic prescriptions not working?		
Does the patient have sufficient analgesics at home or a prescription?		
Is no, is there a PCP available to write an analgesic prescription?		
Decision 7: Referrals Algorithm		
Does the hospital have a SCD expert physician for referral?		
Does the patient report anxiety, depression, or other psychiatric condition?		
Does the patient report unstable living or residential situation (teen pregnancy, family, gangs or illicit drug use), lack of heat, electricity or water, homeless, lack of social support, or being unemployed and not in school?		
Does the patient have other complicating psychosocial factors?		