SMART Clearance: A Tool for Medical Clearance in the ED

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BACKGROUND

Patients in Emergency Departments on involuntary psychiatric holds often undergo extensive routine laboratory tests as part of medical clearance for psychiatric hospitalization. However testing of all patients is frequently low yield.[1]

ED visits for mental health complaints have steadily increased for over two decades, accounting for up to a quarter of all adult ED visits.[2-4] Patients with mental health complaints have been shown to have longer ED length of stays,[5-8] and higher rates of repeat visits and admissions.[8-14]

There is some discrepancy between medical clearance guidelines from different organizations including Psychiatry and Emergency Medicine[15-18]. In an effort to standardize medical clearance and reduce unnecessary testing, a screening tool was established with the local medical society, Sacramento Sierra Valley Medical Center (SSVMS). The objective here is to characterize a screening tool utilized by our hospital that allows for medical clearances of mental health patients without routine lab testing.

METHODS

This is a retrospective study of patients medically cleared by the SMART medical clearance tool from July 2017 to June 2018. From the electronic medical records, we screened patients placed on an involuntary psychiatric hold. Patients that met the criteria for SMART clearance were considered eligible for medical clearance without further work-up. Several outcomes were obtained including disposition and length of stay. We also characterized which categories patients were not medically cleared by the SMART tool.

Patients were considered to have failed SMART clearance if they required medical hospitalization within 24 hours of SMART clearance or were referred back from a psychiatric facility to an ED after SMART clearance.

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SMART Clearance Tool

SMART Medical Clearance Form

MRN:

	No*	Yes	Time Resolved
Suspect New Onset Psychiatric Condition?	1		
Medical Conditions that Require Screening?	2		
Diabetes (FSBS less than 60 or greater than 250)			
Possibility of pregnancy (age 12-50)			
Other complaints that require screening			
Abnormal:	3		
Vital Signs?			
Temp: greater than 38.0°C (100.4°F)			
HR: less than 50 or greater than 110			
BP: less than 100 systolic or greater than 180/110 (2 consecutive readings 15 min apart)			
RR: less than 8 or greater than 22			
O_2 Sat: less than 95% on room air			
Mental Status?			
Cannot answer name, month/year and location (minimum A/O x 3)			
If clinically intoxicated, HII score 4 or more?			
Physical Exam (unclothed)?			
Risky Presentation?	4		
Age less than 12 or greater than 55			
Possibility of ingestion (screen all suicidal patients)			
Eating disorders/ not taking po			
Potential for alcohol withdrawal (daily use equal to or greater than 2 weeks)			
Ill-appearing, significant injury, prolonged struggle or "found down"			
Therapeutic Levels Needed?	5		
Phenytoin			
Valproic acid			
Lithium			
Digoxin			
Warfarin (INR)			

*** If ALL five SMART categories are checked "NO" then the patient is considered medically cleared and no testing is indicated. If ANY category is checked "YES" then appropriate testing and/or documentation of rationale must be reflected in the medical record and time resolved must be documented above.**

Date: _____ **Time:** _____ **Completed by:** _____ (Signature) _____ (Print), MD/DO

SSVMS MEDICAL SOCIETY

The SMART screening tool was acronymed after the five question sections to identify patients who may benefit from a lab screening.

The first section for the letter "S" is intended to identify patients without any previous history of psychiatric or psychotic symptoms. Patients presenting with new onset psychotic symptoms require a more thorough investigation.[19-22]

The second section for the letter "M" for Medical, includes common medical conditions that require screen tests such as point of care glucose test depending on symptoms that the patient may present with.

The third section for the letter "A" is meant to encompass abnormal vital, physical and mental status exams. The vital sign parameters were based off of previously published tools.[20,21,23,24]

The fourth section for the letter "R" accounts for "risky" presentations. These include those who are deemed at a higher risk including eating disorders, and alcohol-withdrawal.

The final section is for the letter "T" for therapeutic levels to include individuals who were taking medications with a narrow therapeutic window and significant side effects.

As long as all five categories on the SMART medical clearance form is checked "no", then the patient is considered medically cleared with no further testing indicated. If there is a "yes" in any box, then appropriate testing and documentation will occur.

RESULTS

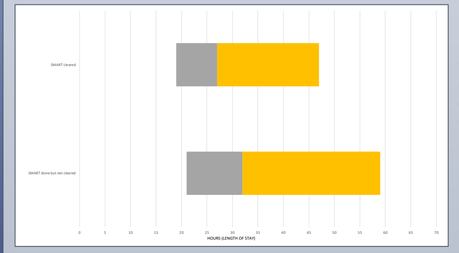

FIGURE 1. MEDIAN LENGTH OF STAY IN HOURS IN THOSE WHO HAVE BEEN SMART CLEARED OR NOT

The number of patients smart cleared were 632, the number of patients who were not cleared by smart was 518.

FIGURE 1

The median length of stay in the ED of those cleared by SMART clearance is 27 hours with an (IQR 19,47) and of those cleared who were not cleared by SMART is 32 hours, (IQR 21,59).

A two sample Wilcoxon rank-sum (Mann-Whitney) test found a $P > [z] = 0.0009$.

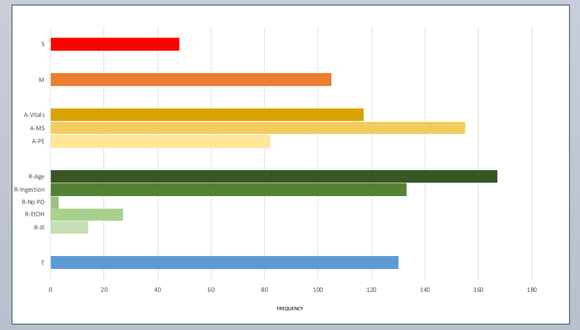

FIGURE 2. FREQUENCY OF CATEGORY FAILED DURING SMART CLEARANCE

We were able to examine the instances of some of the specific subsections in the Abnormal and Risky Categories.

CONCLUSIONS

The SMART Medical Clearance form can be a useful tool in identifying patients who may be safely referred for psychiatric evaluation without routine lab testing. Further study evaluating the wider application of the screening tool including follow up on patient outcomes is needed to better characterize the tool.

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