

The Electronic Medical Record: Does It Accurately Reflect the Trauma Patient?

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Background/Purpose: The Electronic Medical Record (EMR) has mandatory widespread use. The use of EMR for clinical notes carries with it the ease of using cut-and paste functions. The purpose of this study is evaluate the use of copy-and-paste functions in daily progress notes of patients, treated in a single institution, with injuries at a high risk for complications: bicondylar tibial plateau fractures and type I and II open tibial shaft fractures. We hypothesize that the daily progress notes by the orthopaedic residents will have less than 4 new points from the previous day and that the progress notes will not accurately portray an accurate picture of the patient.

Methods: A retrospective medical record review was carried out on orthopaedic trauma patients aged 18 years and older who received surgical intervention for bicondylar tibial plateau fractures and open tibial shaft fractures (types I and II) treated at a Level I trauma center. Daily progress notes were compared manually to the previous day's note for changes in subjective, objective, and plan portions of the notes during the patient's index hospitalization for the injury. Descriptive statistics and a nonparametric McNemar test were used to compare discrepancies on notes for key areas.

Results: There were 38 patients whose charts were reviewed during a 10-month (July 2012 to April 2013) period. 28 had tibial plateau fractures and 10 had open tibia fractures. The average length of stay for patients was 12 days (range, 2-35) There were 418 total notes compared. The overall average of copied data was 85% on a daily basis. Vital signs were auto-updated, so they are not included in the overall copied material. In the subjective portion of the notes, 85%-97% of the data was copied on a daily basis and 71%-92% of the data was copied within the objective portion of the notes on a daily basis. Medical complications (15) necessitating intervention included 8 cases of anemia requiring transfusion, 2 urinary tract infections, mental status changes and cardiac issues (4), and a fall delaying discharge. Of these medical complications, the note the day after the complication reflected the event in 10 of the complications. Thus 5 (30%) of patients did not have notes reflecting the complication ($P < 0.05$). There were 7 complications related to the injuries: 4 cases of compartment syndrome, 1 case of a change in neurovascular status, an amputation, and a wound infection treated with antibiotics. Four of the 7 complications (57%) were not reflected in the notes the day following the complication ($P < 0.05$). There were 54 planned returns to the operating room for procedures, yet 30 of the 54 notes (56%) regarding planned surgical procedures notes did not accurately report the plan for surgery ($P < 0.05$). There were 4 patients with unplanned trips to the operating room and 3 of 4 notes (75%) did not reflect this ($P < 0.05$). Twelve patients (32%) did not have notes accurately reflecting discharge plans and/or destination ($P < 0.05$).

Conclusion: The EMR is now standard in most institutions. While there is not concern for legibility of the notes and access to the chart there is an ease of copy and paste for daily notes. This may not lead to accurate portrayal of the patient. Our results demonstrated widespread use of the copy and paste function in a large academic Level I trauma center.

- The FDA has not cleared this drug and/or medical device for the use described in this presentation (i.e., the drug or medical device is being discussed for an "off label" use). For full information, refer to page 600.

We encourage evaluation of the charts by comparing notes to check for this function being used and a plan to minimize this practice at all institutions. This will decrease the inaccuracies in the chart and provide a clear picture of the patient, their injuries and current status.