Legibility of doctors signatures: Novel approaches to improving an age-old problem

Abstract:
In todays medico-legal environment, the importance of identification of the authors of notes in patient medical charts can not be overemphasized. The present study was to evaluate three different techniques of signing patient notes over a one month period, in order to determine which technique was the most effective in identifying the author of the note. Surgical NCHDs in our hospital were divided into three groups. Group 1 was asked to sign the notes as they normally would. Group 2 was asked to sign each record with the name of its owner, and also sign it in block capitals. Group 3 was given pens with a personal self inking stamp to be used in addition to signing the notes. The number of signatures in all the charts, compliance with the assigned technique and the legibility of signatures were calculated.

Results
Group 1, all NCHDs signed their name when writing notes (100% compliance), however the NCHDs signature was identified only 37% of the time. In Group 2 (who signed in block capitals) and Group 3 (who used the pen with personalised stamp) the signature was identifiable 100% of the time when the respective signature technique was used. Using the pen with personalised self inking stamp was significantly more popular (77% compliance) compared to signing in block capitals (46% compliance).

In conclusion the pen, with personalised self inking stamp, provides a fast and effective means to clarify signatures of NCHDs documentation, which is not only important in a day to day patient management, but is essential from a medico-legal stand point.

Introduction
On August 2, 1776, John Hancock was the first member of the American Continental Congress to sign the Declaration of Independence, his name, through the ages remaining synonymous with a clear, identifiable signature. Doctors on the other hand, in particular surgeons, have a reputation for poor handwriting. A number of studies have supported the observation that doctors handwriting is particularly poor and often difficult to read. Misread prescription or instruction can have serious consequences for the patient. Misidentification of the author of entries in a medical record has medicolegal implications. Multidisciplinary management of patients emphasises the importance of the medical record as a form of communication between teams and the need for a recognisable and legible signature. A prospective study was undertaken to assess the legibility of doctors signatures on medical notes. In addition two approaches to improving identification of the author of medical notes were evaluated.

Methods
There were three general surgical teams, each with one intern, two senior house officers (S.H.O.) and one registrar, in the centre where the study was performed. Each team was randomly assigned a specific method of signing off on each entry in the medical record. Group 1 were given no specific instructions. Group 2 were asked to sign each record with their usual signature and also to print their name in block capitals. Group 3 were asked to sign their signature and stamp each record using a novel self-inking pen with a COLOP brand stamp identifying its owner. Three pens were purchased for each doctor allowing for broken or lost pens. Even in this refillable cartridge and a personalised self-inking stamp (Figure 1). Three pens were purchased for each doctor as part of an overall risk management strategy within the hospital.

Table 1 Signature legibility according to doctors grad

<table>
<thead>
<tr>
<th>Grade</th>
<th>Legible</th>
<th>Illegible</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.H.O.</td>
<td>327 (63%)</td>
<td>103 (27%)</td>
<td>430</td>
</tr>
<tr>
<td>Intern</td>
<td>324 (65%)</td>
<td>82 (16%)</td>
<td>406</td>
</tr>
<tr>
<td>S.H.O.</td>
<td>276 (65%)</td>
<td>120 (27%)</td>
<td>396</td>
</tr>
</tbody>
</table>

In the three groups, interns signatures were legible 95% of the time compared to 9% of registrar signatures. Poorer physicians handwriting was more prevalent with increasing seniority of grade p < 0.0001 (Table 1).

Discussion
Doctors have a reputation for illegible handwriting although it has been demonstrated that others professions have equally poor penmanship when formally tested. The implications for doctors can be much more serious. Accidental ordering errors can not be overemphasized. We evaluated three different techniques of signing patient notes, over a one month period, in order to determine which technique was the most effective in identifying the author of the note.

In Group 1, all NCHDs signed their name when writing notes (100% compliance), however the NCHDs signature was identified only 37% of the time. In Group 2 (who signed in block capitals) and Group 3 (who used the pen with personalised stamp) the signature was identifiable 100% of the time when the respective signature technique was used. Using the pen with personalised self inking stamp was significantly more popular (77% compliance) compared to signing in block capitals (46% compliance).

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