

# Clinical Skills Passport: A Method to Increase Participation in Clinical Skills by Medical Students During a Surgery Clerkship

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**OBJECTIVE:** To prospectively evaluate the effect of introducing a clinical skills “passport” on medical students’ reporting of their experience with basic clinical skills.

**DESIGN:** A prospective longitudinal intervention study was conducted. Medical students were administered a questionnaire at the conclusion of their 12-week surgery clerkship regarding their experience with 15 clinical skills, inquiring whether they had “learned on surgery clerkship”, “learned before surgery clerkship”, or “not learned”. Preintervention baseline data were obtained for 2 consecutive academic years ( $n = 213$  students). In the third year, students ( $n = 124$ ) were given a clinical skills passport to document performance of 8 of the 15 skills under the supervision of a surgical resident or faculty member. After excluding from analysis those students who learned a skill before their surgery clerkship, the fraction of students who reported learning clinical skills during their surgery clerkship before and after the introduction of the clinical skills passport was compared using Fisher exact test and chi-squared test, where appropriate ( $p \leq 0.003$  was considered significant; Bonferroni correction for multiple comparisons).

**SETTING:** Washington University School of Medicine.

**PARTICIPANTS:** A total of 337 medical students completing the junior surgery clerkship over a 3-year period were included in the study.

**RESULTS:** All 337 students completed a survey. Considering each skill individually, survey response rate was 5045/5055 (99.8%). Combining all responses for all skills, the fraction of students reporting that skills were learned on the

surgery clerkship increased after the introduction of the clinical skills passport (1498/1938 [77%] preintervention vs. 974/1109 [88%] postintervention,  $p < 0.0001$ , chi square). After the introduction of the clinical skills passport, the fraction of students reporting that a skill was “learned on surgery clerkship” significantly increased for the 8 skills listed on the passport (1026/1699 [83%] preintervention vs. 685/714 [96%] postintervention,  $p < 0.0001$ , chi square), but did not increase for the 7 skills not listed on the passport (472/695 [68%] preintervention vs. 289/395 [73%] postintervention,  $p = 0.08$ , chi square). Considering each skill individually, after the introduction of the clinical skills passport, the fraction of students reporting that a skill was “learned on surgery clerkship” significantly increased for 4/15 skills (all listed on the clinical passport) and decreased for 0/15 skills ( $p < 0.003$ , Fisher exact test, 2 tailed).

**CONCLUSIONS:** Institution of a clinical skills passport system during a surgery clerkship increased medical student reporting of their performance of basic clinical skills. (J Surg Ed ■■■■-■■■. © 2017 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

**KEY WORDS:** surgery, clinical competence, medical students

**COMPETENCIES:** Patient Care, Medical Knowledge

## INTRODUCTION

Exposure of medical students to basic clinical skills, and the opportunity for students to perform these skills under adequate supervision, is variable and often limited.<sup>1-5</sup> The etiology of the problem is likely multifactorial: irregular and

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unstructured fashion in which teaching of clinical skills occurs in many medical schools; limited emphasis placed on teaching psychomotor skills; increased time pressure on teaching faculty; increased utilization of nonphysician staff to perform routine procedures such as venipuncture, nasogastric tube placement, and intravenous line placement; and societal expectations that students should not be allowed to “practice” invasive procedures, or perform potentially sensitive physical examinations, on a patient.

The aim of this prospective study was to assess the level of participation of third-year medical students in 15 basic clinical skills, both before and after the introduction of a clinical skills passport. Students were instructed to carry the passport (a brightly colored card that fit into the pocket of their white coats) to document performance of 8 of the 15 skills about which they were queried in an end-of-clerkship questionnaire.

## METHODS

A prospective study was undertaken over a 3-year period. Washington University medical students ( $n = 337$ ) were administered a questionnaire at the conclusion of their 12-week surgery clerkship regarding their experience with 15 clinical skills (Table 1), inquiring whether they had “learned on surgery clerkship”, “learned before surgery clerkship”, or “not learned”. Students were instructed that, when crafting their responses to the questions, “learning” a skill equated with successful performance of the skill at least once under supervision by a resident physician or faculty member, during the academic years 1997 to 2000. Preintervention baseline data were obtained for 2 consecutive academic years ( $n = 213$  students). In year 3, students ( $n = 124$ ) were instructed to perform each of the 15 clinical skills during

the clerkship on patients, under the supervision of a surgical resident (any level) or faculty member, and were given a clinical skills passport to document the performance of 8 of these skills. The passport consisted of a brightly colored (orange) card that fit into the pocket of the students’ white coats. Eight clinical skills were listed on the card, with spaces for signatures of supervising physicians. Students were advised at the start of the clerkship that the performance of these skills was an important part of their clerkship experience, although their level of performance would not be graded. Surgical residents and surgical faculty were advised of the passport system, and that their signatures on the passport should be provided for “satisfactory” performance of the skill by the student. No specifics were provided as to what constituted “satisfactory” performance—this was left to the discretion of the supervising physician. The 8 clinical skills included on the passport were chosen at the discretion of the investigator, with an attempt to equalize the likelihood of the skill being performed before or during the surgical rotation in each group. The passports were turned in by the students to the clerkship coordinator before the conclusion of the clerkship. The questionnaire regarding the students’ experiences with basic clinical skills was administered after the completion of the examination on the final day of the clerkship. The students did not have access to their passports during the completion of the questionnaire. This was done in an attempt to limit recall bias.

After excluding from analysis those students who learned the skill before their surgery clerkship, the fraction of students who reported learning clinical skills during their surgery clerkship before and after the introduction of the clinical skills passport was compared using Fisher exact test (2 tailed) or chi-squared test, as appropriate. When comparing the groups as a whole,  $p \leq 0.05$  was considered

**TABLE 1.** Student Responses to Questionnaire Administered at the Conclusion of Junior Surgery Clerkship, Years 1 and 2 of the Study, Without Clinical Passport

Skills	Learned on Surgery	Learned Before Surgery	Not Learned	Total
Peripheral intravenous line insertion*	82	73	58	213
Nasogastric tube placement*	103	23	84	210
Blood draw (venipuncture)*	34	145	33	212
Foley catheter insertion, female*	164	26	22	212
Foley catheter insertion, male*	185	15	13	213
Knot tying, 2 handed*	152	57	4	213
Skin closure, sutured*	170	40	3	213
Suture removal*	136	77	0	213
Obtain arterial blood gas	26	120	67	213
Interpret arterial blood gas	23	166	23	212
Wound debridement	164	12	36	212
Laceration repair, sutured	114	44	55	213
Abdominal examination	66	140	7	213
Digital rectal examination	31	156	26	213
Breast examination	48	156	9	213
Total	1498	1250	440	3188

\*Skills listed on clinical passport in year 3 of the study.

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