INTRODUCTION

Lacerations are a common problem that require experienced treatment from healthcare providers.

Medical education is becoming an increasingly more scientific and evidence-based process.

Objective measures of competency are an important step to allow students and residents to safely move forward in their training by assuring that the basic competencies are accomplished.

Ideal method of assessment for learned technical skills provides:
1. valid & reliable evaluation of participant
2. useful instruction to facilitate learner’s progression of learning
3. feedback for mentor(s) and teaching program

Checklists called OSATs (objective structured assessment of technical skills) are widely used by medical schools for assessment of competence.

Formalized teaching followed by competency evaluation using validated checklists increases learners’ confidence facilitates acquisition of invasive procedure skills.

Checklists have been developed for a variety of clinical and technical skills.

There is no published validated performance checklist for simple interrupted suture placement.

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RESEARCH AIMS

Develop an assessment tool, based on expert consensus opinion, to evaluate competency of simple suture placement.

Determine validity and reliability of the assessment tool.

HYPOTHESIS

The Delphi method can be employed to develop a performance checklist for simple suture placement based on consensus expert opinion.

Assessment of participants’ performance using consensus checklist will demonstrate validity and reliability.

METHODS – CHECKLIST DEVELOPMENT

Delphi Method: A panel of 6 experts were asked to determine the importance of specific behaviors related to simple interrupted suture placement (5 point Likert scale).

Items were included or excluded based on consensus agreement.

Reviews were performed in multiple stages, generating progressive versions based on feedback, until a final checklist was created based on consensus expert opinion.

METHODS – SUTURE SIMULATION

Volunteer medical students and residents were recruited to perform a simple interrupted suture.

Participants completed a self-evaluation form before and after suture placement. (Experience level & self-reported confidence and competence)

Video recordings were generated of skill performance, recording participants’ hands only.

University of Miami and other medical schools use video recording of standardized encounters as a part of the standard educational experience and evaluation.

METHODS – CHECKLIST VALIDATION

Hyperlinks to recorded videos were sent by email to expert panel for review.

Participant competence was assessed using consensus checklist.

Faculty scores were compared for inter-rater reliability.

Faculty scores were compared to participant experience level to assess construct validity.

RESULTS – SELF SURVEY

Distribution of groups based on level of training

Self reported confidence increased after single suture placement

RESULTS – PARTICIPANTS

Delphi Method: 6 faculty members expert panel

Suture Simulation: 10 participants completed suture simulation exercise

RESULTS – STATISTICS

Inter-rater reliability

Construct validity

Higher experience level correlated with better performance

RESULTS – CHECKLIST DEVELOPED

Consensus checklist for simple interrupted suture placement was generated using the Delphi method.

Assessment of participants’ performance using consensus checklist demonstrated validity and reliability.

FUTURE DIRECTIONS

Consensus determination of a minimum passing score-suture certification process.

Use of model for development of assessment tools for other learned skills and behaviors.

Anticipate incorporation into teaching programs at multiple academic institutions.

REFERENCES