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**Objective:** Advances in medical oncology therapeutics have led to increasingly challenging cancer scenarios (CCS), including an expanding spectrum of treatment side effects and chronic cancer complications. There is no defined curriculum addressing CCS management. Simulation based training with debriefing (SBTD) is an educational method utilizing a virtual medium to mimic clinical scenarios. We hypothesize that SBTD, as an educational tool, is better than traditional didactic teaching of CCS management. This study tests the feasibility of SBTD in medical oncology education.

**Methods:** With ethics approval, a curriculum highlighting CCS topics was created. Three clinical scenarios were developed and programmed using the high-fidelity SimMan™ mannequin. Scenarios last 10 minutes, and participants’ decisions determine the course of the scenario. After receiving the curriculum, participant demographics are collected and they are randomized 1:1 to intervention Arm A or B. Both arms perform three simulation scenarios. After scenario #1, all participants take a quiz testing CCS-relevant knowledge. Then, Arm A receives an expert-facilitated debriefing; Arm B receives a didactic lecture covering CCS management. The next day all participants perform simulation and quiz #2, with simulation and quiz #3 planned for 8 weeks later. Each simulation is videotaped for two independent reviewers to grade performance using the validated Ottawa Crisis Resource Management Global Rating Scale. Beyond feasibility, outcomes include change in performance and quiz scores, and participants’ satisfaction with educational method as assessed by questionnaire after simulation #2-3. Differences between the three simulation scores in both arms will be calculated, and assessed using independent t-test.

**Results:** Eleven participants were enrolled from medical oncology and internal medicine, and participants have completed all three simulations. Data is currently undergoing analysis and will be available by May 1st, 2014.

**Conclusion:** This unique pilot study investigates the use of high-fidelity SBTD in medical oncology education. We aim to develop a national standardized oncology SBTD curriculum to train oncologists in CCS management.