



ADVANCED

COLLEGE

Customer Success Story



THE DISCOVERY



ADVANCED
COLLEGE

Advanced College, South Gate, California, USA offers an Associate of Science in Surgical Technology degree program that is designed to provide the student knowledge and experience to perform effective Surgical Technology in the current market. The college is accredited by the Council of Occupational Education (COE).

Graduates of the program can find positions in Surgical Technologist (CST), Surgical Technician, Operating Room Surgical Technician (OR St), Surgical Scrub Technologist, Surgical Scrub Technician, Endoscopic Technologist, Operating Room Technician (OR Tech). This hybrid program is made available with 49% of instructional hours via distance education thereby providing an excellent opportunity for learners currently working in the surgical technology field to upgrade their skills and knowledge.

The Surgical Technology program runs for a total of 18 months which are divided into six quarters, with three months in each quarter. The last two semesters are allocated to externship hours, where learners are placed in a clinical setting to experience and familiarize themselves with the operating room.

Due to COVID-19 clinical sites were not available to learners. This resulted in the college requiring an alternative way to provide their learners with hands-on clinical lab experience. If a solution was not found, then Advanced College would have faced a financial strain as they would have had to shut down the program. At the onset of the pandemic, the Advanced College CEO, Mr. Amin Vohra, asked Dr. Ghazanfar Mahmood, Chief Academic Officer at Advanced College, to search for an efficient avenue that would offer surgical technology education online without a physical facility. Dr. Mahmood learned about PeriopSim through online research. PeriopSim was then approved and implemented by Advanced College.

Advanced College had originally paid for PeriopSim but later received funding from the CARES Act to cover the purchase. The Surgical Technology learners have been using PeriopSim for the last two semesters over the course of 2020.

The Council of Occupational Education (COE) allows 49% of learning to be conducted online, meaning, it is possible for 405 virtual hours through PeriopSim. PeriopSim offers condensed learning where one hour of real life learning is completed in just 10 minutes. Dr. Mahmood has been converting the simulation time to the equivalent real life time: ten minutes of simulation is equal to one virtual hour. He calculated that 1 hour and 20 minutes of learning on PeriopSim can be converted to 8 hours of real life learning in the OR.

“1 hour and 20 minutes of learning on PeriopSim can be converted to 8 hours of real life learning in the OR.”

- Dr. Ghazafar Mahmood



Above: Advanced College Surgical Technology Program medical instruments.

The original purpose of using PeriopSim was to get learners started with the clinical set up. Dr. Mahmood noted after utilizing the software, PeriopSim also offered a great way to help engage learners in becoming more familiar with surgical instruments. All the learners loved it, as it gave them the opportunity to see the instruments being used on a person and enabled them to memorize the names and learn how they are used.

“Learners love it [PeriopSim], as it gives them the opportunity to see the instruments being used on a person and enables them to memorize the names and learn how they are used.”

Advanced College has stated that they have plans to permanently incorporate PeriopSim into their educational system, whether that be for classes or for externships. Dr. Mahmood says, “[Using PeriopSim] is not a temporary fix for us, it will be a permanent fix.”

Dr. Ghazafar Mahmood (Advanced College) says, “[Using PeriopSim] is not a temporary fix for us , it will be a permanent fix.”

Currently, PeriopSim is used for the externship classes offered at Advanced College. Learners need a total of 810 hours on the clinical site in order to graduate. This is a lot of time for learners to learn, make mistakes, and enhance their surgical skills. However, with the ongoing

pandemic, most clinical sites are still closed and learners are unable to participate in clinical learning. Therefore, Advanced College has submitted an application to the COE to reduce externship hours to 500 hours, with 310 hours being permanently used on PeriopSim and allocated into different classes.

Dr. Mahmood has been encouraging learners through email and online classes to use PeriopSim to gain virtual experience in the OR. Going forward, the college plans to modify their syllabus to include PeriopSim as one of the requirements in their educational system.



Above: Advanced College Surgical equipment.

THE SOLUTION

PeriopSim 



PeriopSim is a surgical training and assessment platform that combines virtual simulations, neuro education and game based learning to save time. When experience is in short supply or too expensive/challenging to attain, simulation training is an ideal option. Pilots have been using simulation for decades and it is a gold standard for certifying and re-certifying competence to fly some of the most complex planes in the world. Healthcare education is catching up.

A National Simulation Study (<https://www.ncsbn.org/685.htm>) was conducted and the study provides substantial evidence that up to 50% simulation can be effectively substituted for traditional clinical experience in all prelicensure core nursing courses under conditions comparable to those described in the study. It is a study that we use as a foundation in describing how PeriopSim can benefit educators in terms of flexibility in education and timesaving. Additionally, we have been the subject of a number of research studies that you can find more information about here: <https://www.periopsim.com/research/>

PeriopSim takes live video footage of a one hour long procedure and creates a Virtual Simulation that is 10 minutes long giving a 6x in time savings for that experience. 1 Experience Hour = 10 minutes in simulation with PeriopSim.

Prior to the COVID-19 pandemic, PeriopSim has been used by Educators in Departments of Surgical Services in hospitals across Canada and the US for the last few years. Educators use PeriopSim to improve confidence and competence of perioperative Registered Nurses (RNs) and Surgical Technologists (STs) during their orientation curriculum. PeriopSim can be combined with other learning tools such as AORN's Periop 101, videos, live simulations and preceptor job shadowing. PeriopSim is used to bridge the gap between classroom and the OR.

Surgical Training and Assessment for the Operating Room Team



There are over 35 Virtual Simulation Experiences on the platform and over 15,000 of these experiences have been completed by learners at our customer sites. To build these Experiences, we partnered with our customers at leading healthcare facilities to record the

procedures, capture instrumentation and materials. We combine these assets with evidence based guidelines from leading sources including AORN and ORNAC. The Educator and Surgeon working with us confirm the quality of the module prior to release. We currently have a large pipeline of modules that are at different stages of development and we provide releases on a regular basis.

When COVID-19 impacted healthcare education more abruptly in mid-March 2020, we had some conversations with leaders in the Surgical Technology area as well as with our customers across the US and Canada in hospitals and we knew we had to act quickly and do something.

PeriopSim was designed to be used on iPad and in Virtual Reality with HPs WMR Reverb Headset or HTC VIVE. This would not work for Surgical Technology Programs that now had to move to 100% online learning. Students did not have access to iPads or Virtual Reality at home. We shifted our entire focus to launching PeriopSim on PC/Mac/ Chromebook and Android/Windows Tablet as quickly as possible.

At the same time we had to come up with a low cost pricing package that would be easy to understand and make sense for schools in the short term as well as in the long term. We created our Educational Institution Package with limited pricing for COVID-19 and went live with communications. This allowed for the early leaders to share the information and get the innovative schools onboard and making simulation for procedures accessible within weeks.

We were incredibly impressed by the resilience, grace and energy from both the educators and learners in this new education configuration. The technical aptitude and speed at which they adopted PeriopSim was incredible and it was an honor to see this unfold.

A key aspect of PeriopSim that didn't require any adjustment is the learning data system that does assessments on learners. C or a D means they are learning and focusing on accuracy rather than speed. A and B means that they are focusing on speed and delivery because they are already accurate. Incomplete means that they haven't done more than 3 simulations which is required to get an assessment. The effort it would take to do these detailed assessments is near impossible without technology like PeriopSim.

For more information see here: [https:// support.periosim.com/learner-competency-levels](https://support.periosim.com/learner-competency-levels)

SCORE
717

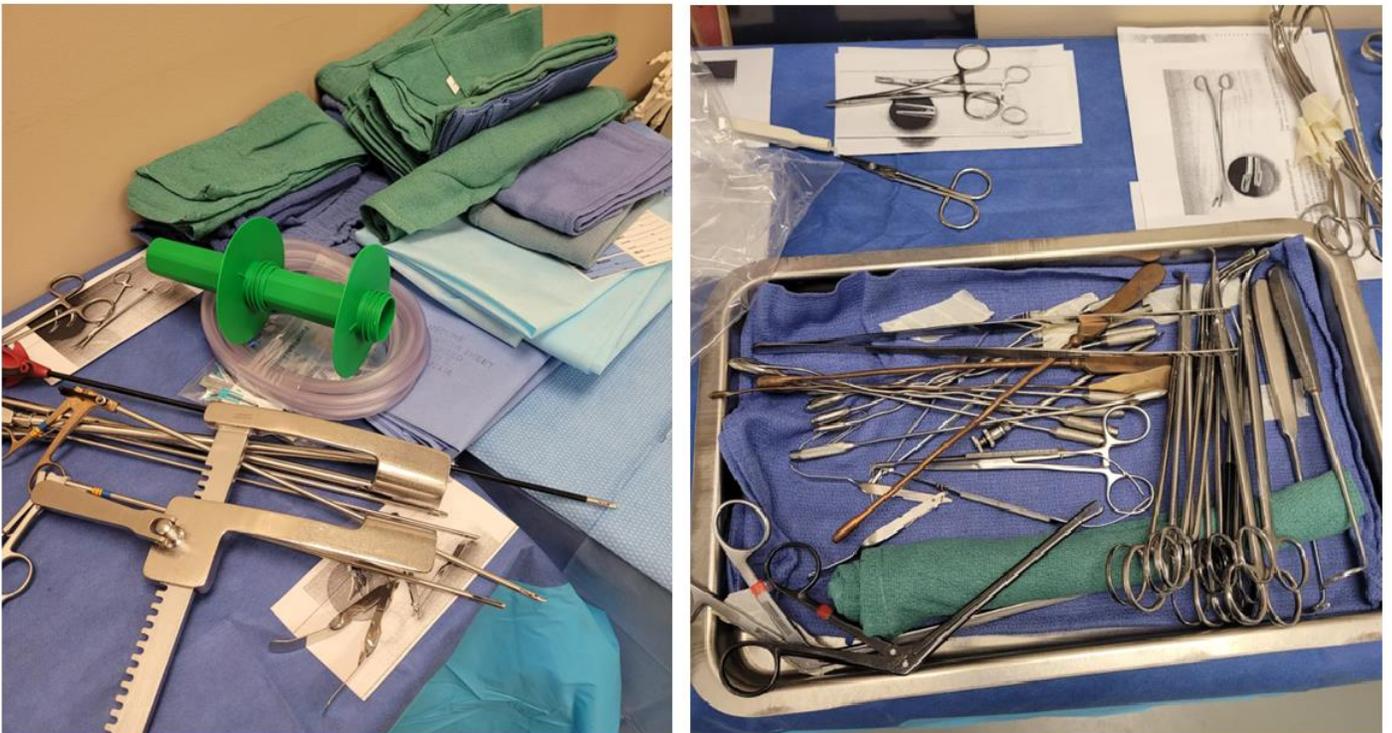
Provide a Curved Mosquito Forceps

Progress: 5/10 (5th circle is red with X)

THE OUTCOME

During the first 90 days check-in zoom video call, Jumana Mascati, the Customer Success Manager, talked to Dr. Mahmood regarding his and his learners' experiences with PeriopSim. Dr. Mahmood mentioned that PeriopSim is extremely helpful in accumulating learners' clinical hours and how he foresees that PeriopSim will become a permanent solution to their Surgical Technology Program. He also added that PeriopSim was mainly used to help generate familiarity with surgical terms, procedures, and skills.

PeriopSim's reporting feature allows an educator to view when a learner has completed the module and the number of times the student has completed the module. If a learner completes the module less than three times, the module will show up as incomplete on the dashboard. Modules are scored on individual attempts and completing the module over a minimum of three plays ensures a more accurate assessment of a learner's ability. In order to achieve an A grade, learners must complete the modules seven to ten times. This allows the student to really learn, anticipate the steps, and know the instruments being passed.



Above: Advanced College Surgical Technology Program medical instruments.

Dr. Mahmood also expressed an interest in PeriopSim VR as he understood that learners are able to feel like they are actually in the operating room. PeriopSim VR allows the learner to learn how to pick up instruments correctly and pass them correctly. There are scoring penalties if learners drop instruments or drop their hands below the table. It allows the learners to go through procedures, and enhance their learning on surgical knowledge, whilst allowing a more immersive and engaging experience.

Jumana will be scheduling a time for Advanced College to use PeriopSim VR with their learners. Dr. Mahmood will also be presenting PeriopSim to their Hospital Advisory Board. Jumana discussed the possibility of extending an invitation to the board members as well to use PeriopSim VR when the travelling kit reached the Advanced College facility.

At the next quarterly meeting via zoom video, Dr. Mahmood said that the COVID-19 pandemic had progressively worsened in California. Hospitals continued to not accept learners, surgeries were pushed back further, and there were restrictions on personal presence in each operating room. Jumana and Dr. Mahmood discussed the scheduling of the PeriopSim VR travelling demo



Above: Advanced College Surgical Technology Program classroom.

VR experience felt like and how learners can benefit when practicing the procedures and passing instruments.

The first three terms (nine months) of the surgical technology course are mainly about didactics and basic surgical etiquette, and there is not a lot of lab time. Dr. Mahmood's initial thoughts on curriculum integration were that after the third term, learners will have much more lab time to learn and use PeriopSim VR. When the learners at Advanced College start their externship hours to finish their degree, they will continue to use PeriopSim and PeriopSim VR. Dr. Mahmood requested a quote for a full PeriopSim VR package for 30 learners and has plans to incorporate PeriopSim VR into their clinical lab time. Jumana provided a quote to Dr Mahmood following this meeting so that he could put in his budget to potentially start to use PeriopSim VR in September 2021.

Dr. Mahmood has plans to utilize this as part of the lab, nine months into the course where it leads into the clinical externship. Dr. Ghazafar Mahmood says "PeriopSim VR is very valuable as learners can learn how to pass the instruments to the surgeon."

Dr Ghazafar Mahmood, Advanced College says "PeriopSim VR is very valuable as learners can learn how to pass the instruments to the surgeon."

Advanced College is not utilizing PeriopSim's grading system just yet. As of right now, PeriopSim is still being used for participation scoring and tracking time but not for grades. Grades will be included from January 2021. Dr. Mahmood is overall very happy with the integration of PeriopSim into the Surgical Technology program at Advanced College. Learners have also expressed its usefulness in memorizing and familiarizing themselves with instruments and procedures.

It is necessary to complete the plays repeatedly to obtain an A grade at which time they are at the anticipating level, Dr Mahmood will take this information back to the learners to give them the reasoning behind why these modules are assessed this way and that the results would show their level of anticipation. A grades are an indicator that the learners are familiarizing and anticipating with the next steps.



Above: Inside Advanced College operating room (learning space).

In the next cohort of learners, Advanced College plans to implement PeriopSim as a graded activity for learners. This will ensure that along with the virtual hour tracking the learners will also get quality learning. The modules are graded on timing and accuracy, so the learner has to complete a module in the quickest amount of time with no incorrect instrument passes. Doing this several times will eventually lead to an A grade, which indicates learners are anticipating.

It usually takes around four to eight minutes, no more than 15 minutes, to complete a module. Jumana wanted to make sure learners were learning effectively and efficiently with each module. Jumana also mentioned that when a lot of time is spent on a module, your score will also go down. A minimum grade is recommended within a certain time frame in order to help learners learn the material from each module. Dr. Mahmood says PeriopSim will be implemented into the syllabus in the upcoming year 2021.

PeriopSim holds a lot of opportunities and knowledge where learners are able to learn at a time like this. By adopting PeriopSim, Advanced College was able to help learners extend their stay in the educational system, helping to continue their education. Without PeriopSim, surgical

technology learners would have had to stop their education and resume at a later time, and risk losing the knowledge they previously learned.

“Without PeriopSim, surgical technology learners at Advanced College would have had to stop their education and resume at a later time, and risk losing the knowledge they previously learned.”

PeriopSim has been extremely helpful in guiding and keeping not just the learners on track but helped Advanced College find an effective solution for their learners.

THE FACULTY



Dr. Ghazanfar Mahmood
Chief Academic Officer at Advanced College