

## Introduction

Our institution hosts a variety of learners including physician assistant students, medical students, and surgery residents and subspecialty fellows at our main campus in the Texas Medical Center and four suburban Houston-area locations. In 2016, we developed a novel multidisciplinary breast surgical oncology rotation for nationwide physician assistant students. This was the first rotation to be decentralized and hosted outside of the main campus. The goal of the rotation is to provide second-year physician assistant students with a well-rounded knowledge base to surgically manage breast cancer, to properly assess patients for surgical risk, and to develop appropriate multidisciplinary treatment plans.

## Background

Most breast surgical oncology rotations are primarily centered on experiential learning in the breast surgery clinic and operating room, with the student following a group of breast surgeons. As the care for breast cancer patients has grown highly specialized, the development of a multidisciplinary approach is predicated on personalized, tailored treatment planning. This includes navigation, genetics, breast imaging, breast medical oncology, breast radiation oncology, plastic and reconstructive surgery, integrative medicine, cancer pain medicine, oncologic psychiatry, survivorship, and evaluation for clinical trials. We designed an elective rotation that provides supervised breast clinical and surgical experience, and critical exposure to these additional multidisciplinary specialties.

The standardized four to six week-long rotation includes learning objectives and reading assignments which are reproducible and reduce the variability that can occur with purely experiential learning. A calendar is prepared including a daily reading and learning objective schedule to provide a logical progression through the material that mirrors the daily clinical experience and conference/lecture schedule. These materials are collated into a rotation handbook, which is prepared for each learner.

Preparation for non-breast surgery days include mini-lectures by the preceptors, who have completed annual institutional training including the “One-Minute Preceptor” and “Focused Half-day” models. Clinical cases and learning objectives are furthermore debriefed on a weekly basis.

## Methods

Assignments include two cancer-focused, written history and physical exam exercises which are reviewed with feedback. Students learn how to elicit an appropriate breast surgery history, perform a focused breast exam as well as a pre-operative physical exam, and develop oral presentation skills. Other activities include learning opportunities including case conferences, morbidity & mortality conference, grand rounds, and didactic lectures. At the conclusion of the rotation, each student is debriefed to support process and curriculum improvement.

## Results

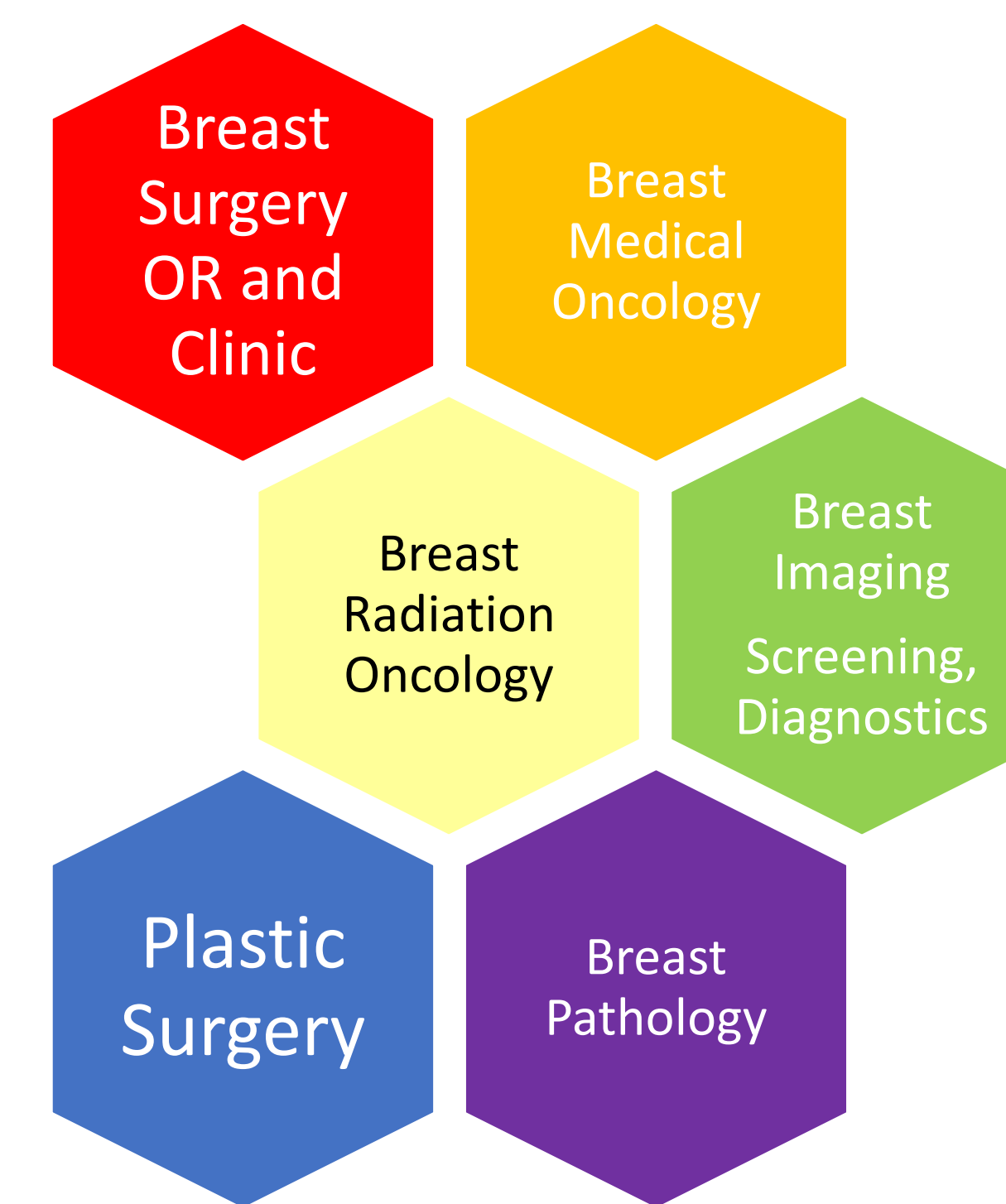


Figure 1: Multidisciplinary Experience

Date	Location	Reading Assignment	Learning Topics
Mon	Breast Surgical Oncology Clinic	Bates Breast and Axilla, Bates Visual Guide	Take a breast history, Breast exam technique, Complete H&P
Tues	645am: OR 4pm: Clinical Management Conference 5pm: Statistics: Basic Knowledge	Screening Guidelines, Basic Statistics	Breast Imaging, Basic Statistics Principles
Wed	7am: Grand Rounds 8am: Cancer Genetics Clinic	Genetics	Cancer susceptibility genes, indications for testing, VUS
Thurs	830 am: Breast Surgery Clinic 5pm: Breast surgery case conference	Breast Anatomy/Surgical Atlas, Preop Localization	Surgical Recall Questions, Localization techniques
Fri	7am: Multidisciplinary case conference 8am: Breast Imaging Clinic 4pm: Weekly Debrief	Breast imaging (MG, US, MRI), density, BIRADS	Interpreting imaging reports, Indications for biopsy

Figure 2: Sample Schedule

## Conclusions

Since 2016, our group has hosted ten physician assistant students from programs across the country, in a rotation that the students have ranked highly; all have scored the rotation as “excellent” across all the queried categories. Satisfaction with the student experience is centered on the organization of the rotation and knowing exactly what their daily learning objectives will be. Subjectively, many have noted that this rotation was one of their top two favorite clinical rotations.

Hosting these students allows our team, through education, to fulfill part of the institutional mission, which is to eliminate cancer in Texas, the nation, and the world. Two former students are now employee colleagues. One preceptors was recently honored as “Advanced Practice Provider Educator of the Year,” which was awarded across all specialties. Our group is furthering this work by developing a mobile PA education application (app).

The value of standardization and reproducibility in a teaching curriculum has been demonstrated through this rotation. Experiential learning will always have some variability but set learning objectives helps preceptors identify knowledge gaps and improves student satisfaction. Preceptors should consider a structured, organized rotation schedule which exposes students not only to core breast surgery clinical cases but also to the associated multidisciplinary specialties.