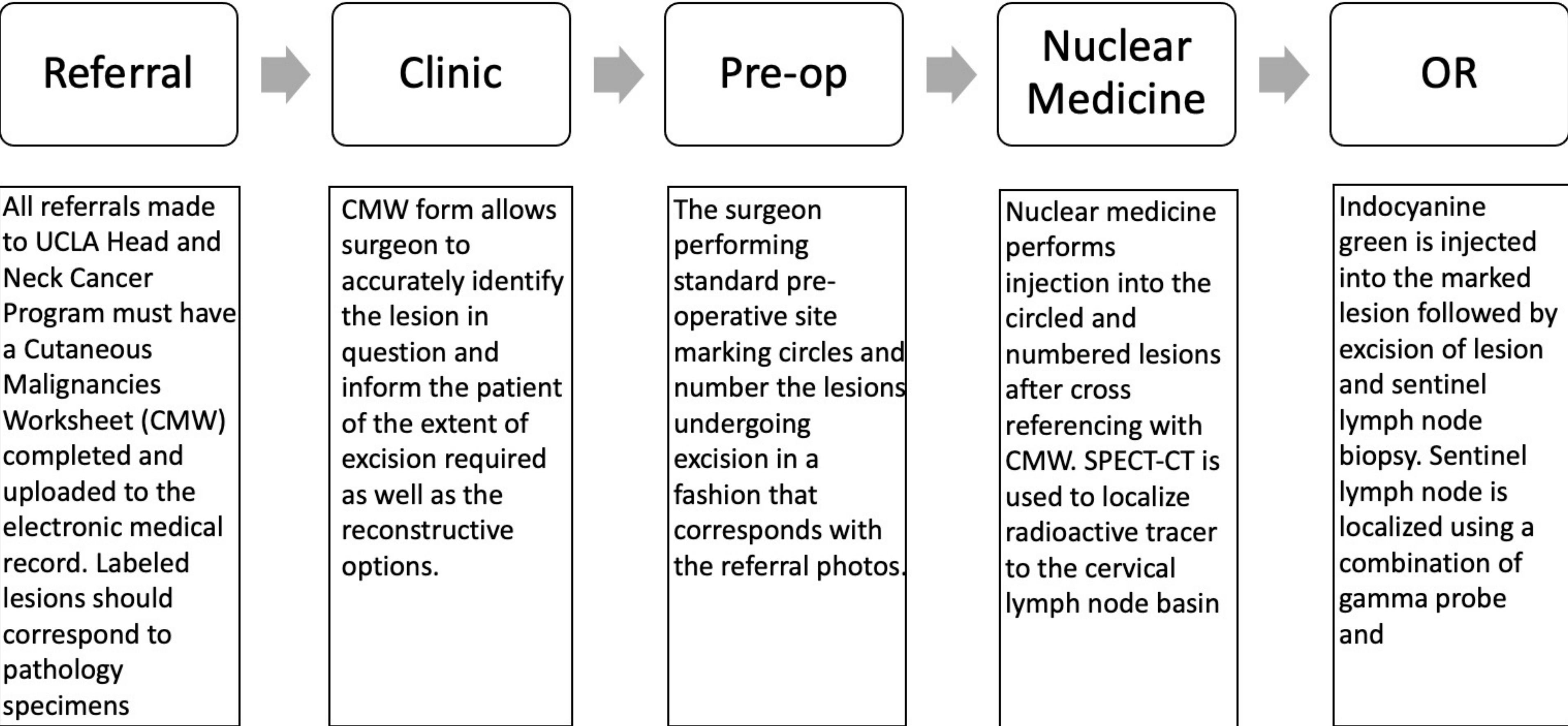


Introduction

Sentinel lymph node biopsies (SLNB) for head and neck melanoma require a multi-disciplinary team including surgeons, dermatologists, pathologists, and nuclear medicine specialists. For optimal outcomes, care needs to be carefully coordinated to achieve consistency in quality and efficacy. Many lesions that are referred to head and neck surgeons for SLNB have previously undergone excision by a Mohs surgeon, resulting in a scar that may be difficult to identify for SPECT/CT radioisotope injection. Furthermore, many patients—particularly the immunocompromised—present with multiple adjacent skin lesions and scars, making identification of the target lesion(s) difficult. As supported in the literature, lymphatic drainage of the head and neck regions is complex due to multiple lymph node basins. As a result, a standardized approach with clear documentation and demarcation of the lesion of interest is key. Here, we describe a novel multidisciplinary approach to optimize SLNB in head and neck melanoma patients.

Methods

We developed and implemented a facial demarcation map based upon anatomic landmarks to aid all providers in the identification of the lesion of interest. We will enroll 10 patients with head and neck cutaneous melanoma requiring SLNB with no clinical or radiologic nodal or distant metastases.



Results

Referring providers were provided with a worksheet containing face sketches in six standardized views—anterior, posterior, left and right lateral, superior, and basal—as well as a grid demarcating fixed anatomic landmarks such as the lateral canthi of the eyes and the nasal dorsum. In addition to marking and numbering the lesions targeted for SLNB on the anatomic map, the referring physician also included photos of the patient taken in the standardized view(s) to help localize the lesion. This worksheet was uploaded to the patient’s electronic medical record and served as guide for specialists to accurately identify the lesions of interest at all stages of care from the clinic to nuclear medicine and ultimately the operating room.

Head and Neck Cancer Program
Cutaneous Malignancies Worksheet

UCLA Health

1) Circle and number target lesion(s)

FaceScalpNeck

2) Attach photo(s) with the patient oriented in one of the standardized views depicted in step 1.

- Circle and number the target lesion(s).
- Numbering must correspond with step 1.

Example:

3) Attach close up photos of target lesion(s)

- Circle and number the target lesion(s).
- Numbering must correspond with steps 1 and 2
- Include orientation (e.g. anterior, posterior, inferior, superior)

Example:

4) Attach pathology reports of target lesion(s)

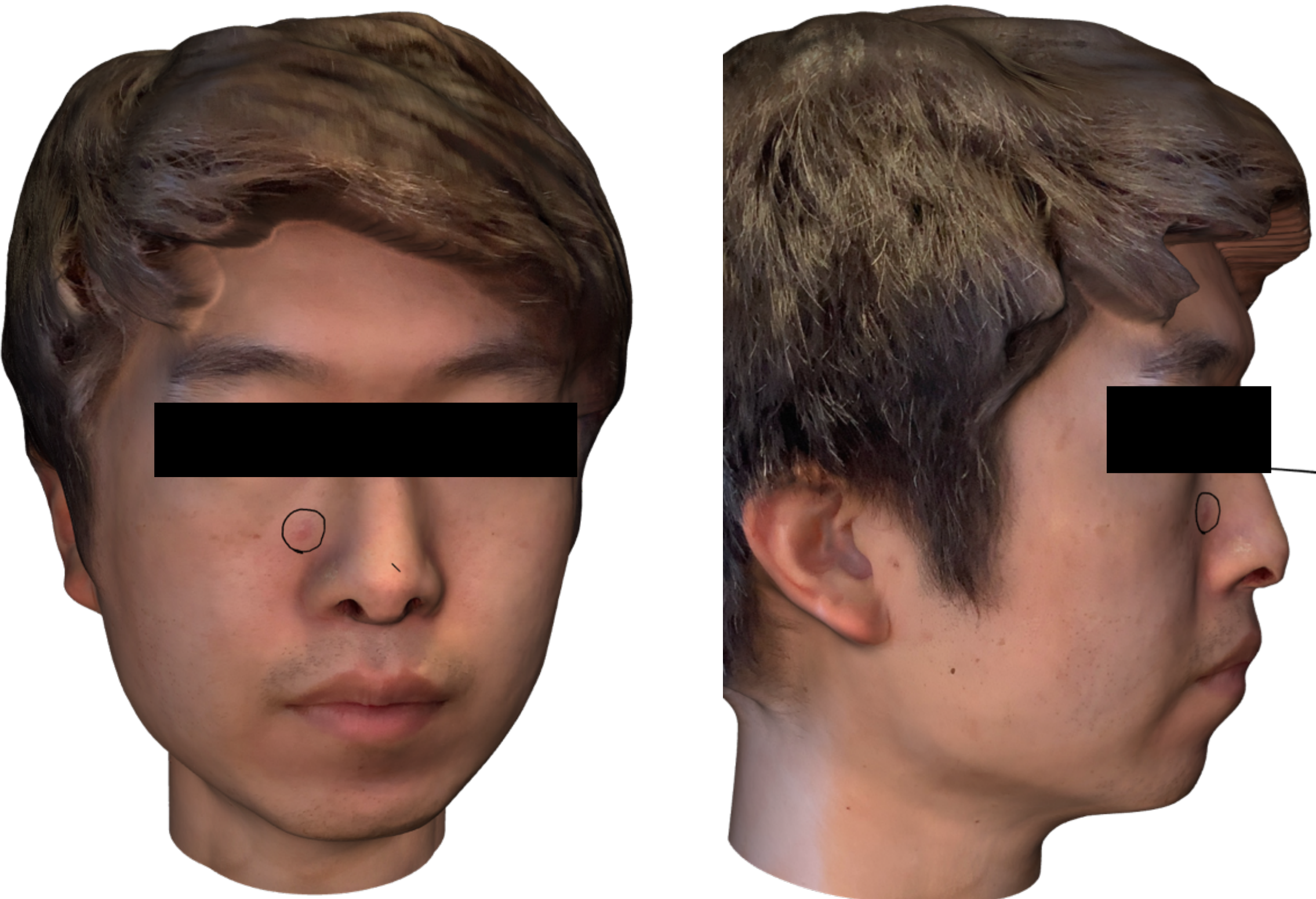
- Pathology reports should be numbered corresponding with steps 1-3

Conclusion

The utilization of a standardized anatomic map improves patient outcomes in melanoma treatment by optimizing communication between providers and allowing for the accurate injection of lesions for SLNB.

Future Directions

Advanced imaging technology accessible on nearly any smartphone device presents a unique opportunity to create an interactive 3-D model to pinpoint and track any facial, scalp, or neck cutaneous lesion. Apple iPhones are now equipped with infrared cameras which projects 30,000 points onto the users’ face to a 3D map as well as LIDAR (laser imaging, detection, and ranging) for 3-D scanning. We are currently developing an application that harnesses these technologies to create a 3-D map of the patient’s face, upon which target lesions can be marked and tracked. Furthermore, our goal is to integrate these 3-D head and neck maps with SPECT/CT DICOM images, allowing for accurate identification of sentinel lymph nodes



Interactive, 3-D face and neck scan of patient to track location, size, and growth of target lesion (circle, black). Black bar added for patient privacy.