

Advancing mission-driven path labs mTuitive helps the Veteran's Administration support teaching and make gains towards a high reliability organization

Maintaining the College of American Pathologists (CAP)—electronic Cancer Protocols (eCPs) while optimizing the efficiency of 10 staff pathologists and a roster of attendings and residents is the focus of Dr. Dara Wakefield's duties at the Malcom Randall Department of Veterans Affairs (VA) Medical Center in Gainesville, Florida.

In 2023, Dr. Wakefield and her department began looking for ways to cut the time and effort needed in creating pathology reports using a dictation solution, combined with manual referencing to printed binders of CAP standards. Her team used a variety of methods for preparing their reports—often with the aid of busy administrative assistants who transcribed dictated or paper-based reports. Not only was this process time-consuming, but it impeded the VA's progress toward better standardization, in service to their mission of providing the highest level of care to the country's veterans.

Further complicating the pathology team's effort was a tendency for their old report dictation solution to be disabled when the VA underwent regular IT updates or changes.

Dr. Wakefield was introduced to mTuitive through a VA colleague, Dr. Robert Allan, the Chief of Pathology for the North Florida/South Georgia Veterans Health



Helping the VA stay on-mission

Dr. Wakefield says that mTuitive helps her team in several key ways:

1. Supports the highest level of care by being up-to-date and standardized
2. Helps improve timely and accurate diagnosis
3. Saves time and labor costs in completing accurate reports
4. Has explanations (like T stage info) that helps with communication and clarity of the reports when read by clinicians and others

Better standardization and faster pathology reporting have helped all the VA's clinicians advance their goal of being a high reliability organization. "One of those points is standardization. Communication and making it accurate, right, and timely—mTuitive definitely helps us."



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System. Dr. Allan had been part of a beta group that had tested and advised on the mTuitive Pathology™ product during its early development.

"Whenever I asked another pathology colleague who was using mTuitive what they thought of the system, they always had very positive things to say," Dr. Wakefield recalled.

An immediate state of standardization

Because mTuitive Pathology automatically tracks and updates its solution according to the latest CAP protocols, every report that comes out of the system is guaranteed to be compliant.

And while mTuitive Pathology provides room for users to customize features such as fonts, size, and spacing, every synoptic report generated is assured to be aligned with both the VA's organizational standards and CAP guidelines.

For example, report metrics are standardized (cm vs. mm) and the completeness of each report is assured. An automated series of prompts allows a clinician to move quickly and thoroughly through a case with confidence and speed.

Easier collaboration leverages everyone's efforts

mTuitive's model means reports may be accessed, edited, and managed by all authorized clinicians. For Dr. Wakefield's team, this meant that the information entered by



Malcom Randall Department of Veterans Affairs (VA) Medical Center Gainesville, Florida

residents did not have to be re-entered under an attending's account or by administrative staff. The attending can simply go into the case, review, and complete it, truly enabling hands-on experience and practical teaching opportunities for the attending in real time.

"Under the old system, I remember seeing residents copying report data into Microsoft Word documents in order to make their edits, and then printing out pages of CAP information to pass along to our secretaries for transcribing, in order to make sure their reports were compliant," she said. "This was a huge waste, and reports went through so many hands, there were lots of opportunities for mis-transcriptions."

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Excellent useability, training, and integration with VistA

As a teaching facility, the Gainesville VA sees regular staffing turnover and migration. According to Dr. Wakefield, the mTuitive solution is easy to learn and use as an optimal teaching tool.

"Every clinician now knows exactly where to look for the data they're seeking. It's in the same place in every case, regardless of which clinician completed the report," Dr. Wakefield explains.

For pathology residents, the fact that mTuitive Pathology consistently displays notes and explanations aids in the educational process for generating complete and compliant reporting.

mTuitive Pathology is vendor agnostic and easily integrates with the VA's VistA (Veterans Health Information Systems and Technology Architecture) EHR, among other major systems such as Cerner, Epic, and MEDITECH.

Significant time savings

Dr. Wakefield estimated that CAP-compliance monitoring consumed "up to an hour per case." Today, with features like auto-prompt, turnaround time (TAT) for reporting is greatly shortened, while standardization of synoptic data is assured.

With mTuitive, transcribing has been eliminated, along with the risks of delays and errors.

Melanoma of the Skin - Excision

Specimen

- ☐ Procedure (Note A)
- ☐ Specimen Laterality

Tumor

- ☐ Tumor Site (Note B)
- ☐ Multiple Primary Sites (required only if applicable)
- ☐ Histologic Type (required only if applicable) (Note C)
- ☐ Maximum Tumor (Breslow) Thickness in Millimeters (mm) (Note D)
- ☐ Ulceration (Note D, E)
- ☐ Anatomic (Clark) Level (Note D)
- ☐ Mitotic Rate (Note F)

Ulceration (Note D, E)

- ☐ Not identified
- ☐ Present
- ☐ Cannot be determined

CAP Protocol (Revised March 2025 Version: 1.2.0.0)

Note D
Note E

mTuitive Pathology provides links to supplementary and expository materials to assist in completing reports.

Primary Tumor (Breslow) Thickness and Anatomic (Clark) Levels

Maximum tumor thickness is measured with a calibrated ocular micrometer at a right angle to the surface of the lesion at the point of measurement. The upper point of reference is the upper edge of the granular layer of the epidermis of the overlying skin (if intact) or the base of the ulcer, if the lesion is ulcerated. The lower reference point is the deepest point of tumor invasion (i.e., the leading edge of a single mass or an isolated group of cells deep to the main mass). For primary melanomas lacking an intraspidal component, the tumor thickness should be measured from the top of epidermal granular layer to the deepest invasive cell.

If the tumor is transected at the deep margin of the specimen, the depth may be indicated as "at least ___ mm" with a comment explaining the limitation of thickness assessment. For example, "The maximum tumor thickness cannot be determined in this specimen because the deep plane of the biopsy transects the tumor."

Tumor thickness measurements should not be based on peridnexal extension (either peridnexal adventitial or extra-adventitial extension), except when it is the only focus of invasion. In that circumstance, Breslow thickness may be measured from the inner layer of the outer root sheath epithelium or inner luminal surface of sweat glands/ducts, to the furthest extent of infiltration into the peridnexal dermis.

Satellites (macroscopic or microscopic) or foci of neurotropism or lymphovascular invasion should not be included in tumor thickness measurements.

In the 8th edition of the AJCC melanoma staging system,¹ it is recommended that tumor thickness measurements be recorded to the nearest 0.1 mm, not the nearest 0.01 mm, because of the impracticability and imprecision of measurements, particularly for tumors greater than 1 mm thick. Tumors less than or equal to 1 mm thick may be measured to the nearest 0.01 mm if practical but should be reported to the nearest 0.1 mm (e.g., melanomas measured to be in the range of 0.75 mm to 0.84 mm are reported as 0.8 mm in thickness and hence T1b, and tumors 1.01 to 1.04 mm in thickness are reported as 1.0 mm).

While the principal T category tumor thickness ranges have been maintained in the AJCC 8th edition, T1 is now subcategorized by tumor thickness strata at a 0.8 mm threshold. Tumor mitotic rate as a dichotomous variable is no longer used as a staging category criterion for T1 melanomas. T1a melanomas are now defined as non-ulcerated and less than 0.8 mm in thickness. T1b melanomas are defined as 0.8-1.0 mm in thickness or ulcerated melanomas less than 0.8 mm in thickness.

Anatomic (Clark) levels are defined as follows:

- I Intraepidermal tumor only (i.e., melanoma in situ)
- II Tumor present in but does not fill and/or expand papillary dermis
- III Tumor fills and expands papillary dermis
- IV Tumor invades into reticular dermis
- V Tumor invades subcutis

Anatomic (Clark) level of invasion remains an independent predictor of outcome and is recommended by the AJCC to be reported as a primary tumor characteristic.¹ However, assessment of Clark levels is less reproducible among pathologists than is tumor thickness, and Clark levels are not used in the AJCC staging system for pT status. Accordingly, Clark levels are included in this checklist as an optional data item.

References

1. Gershenwald JE, Scolyer RA, Hess KR, et al. *Melanoma of the skin*. In: Amin MB, Edge SB, Greene FL, et al. eds. *AJCC Cancer Staging Manual*. 8th ed. New York, NY: Springer; 2017.

These constantly updated reference materials not only help physicians navigate their responses, but also act as a valuable education tool for residents and others.

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