

Munsell Color Chart

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The goal of adding EHR documentation of skin tone is to create a way to stratify wound data by skin tone for a deeper analysis and awareness of patient populations most at risk for health disparities, specifically pressure injuries.

Why

Skin tone is more predictive of skin damage on the trunk than ethnicity or race and those with documented dark skin tones (DST) had more severe levels of skin damage. Skin tone or pigment scales aid in assessing differences in DST. The field of dermatology has validated the use of the Munsell Color Theory as an objective assessment of all skin tones via hue, value, and chrome. The use of the Munsell Color Chart is an objective measure for early and aggressive prevention and has shown increasing sensitivity of DST pressure injury risk assessment for practice and research (McCreath et al., 2016).

- Provides more objective assessment of skin tone/color.
- Used to describe human skin tone specifically related to dermatology and skin tone in dark and light toned skin (Gitelson 1965, Lim & Tham 1997, Reisfeld 2000, Riordan et al. 2001, Sivarajan & Mackay 2005).
- Provides objective measure of skin tone for early and aggressive prevention and increasing sensitivity of PU risk assessment for clinical practice and research (McCreath et al., 2016; Bates, McCreath & Patlan, 2017).

The NPIAP (2019) guidelines recommend to "Evaluate the relevance of performing an objective assessment of skin tone using a color chart when conducting a skin assessment. – (Strength of Evidence = B2; Strength of Recommendation = nothing specific)"

The McCreath article I attached looked specifically at the use of the validated Munsell Color Chart 5YR to identify a patient's skin tone as light, medium, or dark. Based on how this research utilized the Munsell Chart, as well as how it's used in dermatology specialties, **I propose to only use the middle column.** Providers

will assess patient skin tone on their forearms and buttocks, assign to a value, of which correlates with the following three documented objective skin tones:

- light skin tones (values 7-8)
- medium skin tones (values 5-6)
- dark skin tones (values 2.5-4)

Electronic Health Record

How I envision this looking in the EHR:

- Adding a row to the Adult Health Assessment/Admission Navigator and/or in the upcoming wound module labeled "Objective Skin Tone". Single select documentation options: "Light", "Medium", or "Dark"
- When providers click in the documentation box, a side reference will pop up to include directions on assessment, as well as the middle column of the Munsell Color Chart 5YR for reference (similar to other scales we use Glasgow Coma Scale, Hendrich Fall Risk Scale):



Values 2.5 (bottom/darkest) through 8 (top/lightest)

References

- Bates-Jensen, B., McCreath, H.E., & G., Patlan. (2017). Subdermal moisture detection of pressure induced tissue damage on the trunk: The pressure ulcer detection (PUD) study outcome. *Wound Repair Regen*, 25 (3), 502-511.
- McCreath, H. E., Bates-Jensen, B. M., Nakagami, G., Patlan, A., Booth, H., Connolly, D., Truong, C., & Woldai, A. (2016). Use of Munsell color charts to measure skin tone objectively in nursing home residents at risk for pressure ulcer development. *Journal of Advanced Nursing*, 72(9), 2077-2085. <https://doi.org/10.1111/jan.12974>