

Q&A Transcript

with Dr. Susan Abdel-Rahman, Bridget Little, Aimee McLeod and Karen Stephens

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Are the measures to be done when the child is standing and if so what about babies?

Dr. Susan Abdel-Rahman:

Yeah, no, they do not. They can be done sitting, lying down. I really like the measurement because it can be done while the child is being held in the arms of a parent or a caregiver.

Is the tape easy to clean?

Dr. Susan Abdel-Rahman:

Yes. You can wipe them down.

Are the differences between genders for MUAC z-scores?

Dr. Susan Abdel-Rahman:

Yes. There are differences between gender. And so if you want the actual z-score value, let's say negative 2.6. You're definitely going to want to perform the calculation. For this tool that I'm describing here, we actually combine the genders so we could maximise the amount of discreet age groups we had. We found that until kids got older, there was more similarity between gender within smaller age cohorts than there was within gender along bigger age cohorts. So for these purposes, you'll see them combined, but when you actually track longitudinally, either with the z-score or on the centile graphs, those are broken out by gender.

Can the MUAC z-score tape be used in preterm infants?

Dr. Susan Abdel-Rahman:

The MUAC measurements are typically not done below two months of age, primarily because we don't have the data. We've done some anthropometric studies in preterm infants and they seem to be slightly less reliable. The MUAC z-score tape is for children two months postnatal age and older, whether preterm or full term. It's important to recognise that preterm children are going to sit on the smaller end of the tape while full term kids are going to sit slightly on the larger end.

Do you use a corrected age or actual gestational age?

Dr. Susan Abdel-Rahman:

We use actual postnatal age.

Looking at children with cerebral palsy, how would you use MUAC in children with lower muscle tone?

Aimee McLeod:

These were questions I asked when we first started looking at using the tape in my practice. We know that different disabilities can present with hypotonia or hypertonia and the data that they used in the states did include some children with disabilities, but we don't have a breakdown of what those disabilities were so I think that's an opportunity to gather more data specific to those populations and to see if we could validate that data in those populations.



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How helpful is MUAC in detecting malnutrition in children, in larger bodies?

Karen Stephens:

In terms of body mass not as great. I mean, it's not going to pick up micronutrient deficiencies for example, but it can be valuable. Showing families the tape and where you would expect the child to be vs where their child is measuring, can be very helpful to just identify what might be an issue.

How often should you repeat a MUAC measurement?

Karen Stephens:

If patients were still in the hospital MUAC was measured at least weekly because, I mean you're not going to get much day-to-day differences. And typically, in clinics, we were not able to see them more frequently than a month, so MUAC was usually measured monthly.

Aimee in your practice, did you measure MUAC at every visit because that's obviously not going to be daily or weekly?

Aimee McLeod:

Considering we're not an acute service we would measure MUAC every four to six weeks, potentially longer than that. If we were very concerned, we may measure MUAC more frequently, but that would more than likely be getting the parents to do the measurement.

Dr. Susan Abdel-Rahman:

It is important to set expectations with families that the actual MUAC measurement number may increase more quickly than moving to the next colour range, which takes a little bit more time.

Is MUAC part of a screen or an assessment, or can it be used for both?

Karen Stephens:

Both. It's part of the assessment for sure, but lots of times we're screening as well. And so yes, it can be used for both.

We've got so many different ethnicities and you did talk about how it had gone across different countries, but has there been a lot of work about comparing different ethnicities?

Karen Stephens:

I'll just say that in our facility, the tape has been used across different ethnicities including Caucasians, Hispanic, African, Burmese and that was all part of our data pool. We did not separate them out by ethnicity.

Dr. Susan Abdel-Rahman:

I will say that there are some differences we might expect to see in populations that have different growth patterns than we might see in a developed country like the US. And that is where we need more data. So we do know that we want a little bit more information from other parts of the world of as well, the MUAC tapes can be adapted. The ranges can be changed. And we've got folks that are working on that right now, but it comes from a very broad group of children that were used to at least develop the tape.

Bridget, are you using this now as a standard part of your anthropometric assessment in the ICU setting?

Bridget Little:

No, not necessarily a standard blanket for all, but I am using it definitely more frequently over time. Many of our patients



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in the PICU setting have a very short stay so they can be in and out within 48 hours. I would tend to use the tape for the group of patients that are staying a bit longer, unless using it as a one-off diagnostic tool.

Would you include a MUAC score result in doctors' letters?

Karen Stephens:

Yes, because in the US it's part of our electronic health record. And so, when we type up our assessment, the MUAC is part of that.

Is it alarming for patients or their families to be told that their child is in the malnourished range?

Karen Stephens:

I don't think it's any more alarming than any other measurements. I think it's important to use the data to show them how it can be very helpful to motivate change.

Aimee McLeod:

I really agreed with what Karen was saying about the difference between presenting MUAC z-scores compared to weight. One thing I glossed over a little in my presentation was sometimes families come to us with a real hyper focus on weight. They've been a little traumatised by that, within a hospital system and it's difficult to get them to reorientate away from that. The MUAC z-scores can be a little more positive.

Where can the instructions on how to train parent/caregivers on how to use the MUAC z-score tape be found?

Dr. Susan Abdel-Rahman:

The ANHI website (anhi.org) And it's very heavily graphic oriented. There's a lot of pictures that show how to make the measurements and it describes how to read the tape as well. So we did our best to make it as user friendly as possible.