WIC ANTHROPOMETRIC TRAINING

Michigan Department of Health and Human Services
Women, Infants, and Children (WIC) Division

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Housekeeping



Please mute microphone when not speaking.



Recommend keeping cameras on when possible to support engagement.



Participating in polls and discussions is key for learning.



Questions encouraged throughout.



Continuing education available for nurses, RDs, and other health care professionals.

Agenda



- Why Anthropometric Measurements Matter
- Preparing to Take Measurements
- Taking & Confirming Measurements

Short Break

- Converting, Rounding, & Entering Measurements into MI-WIC
- Perspective Enterprises - Skills & Equipment Demonstration

Short Break

- MI-WIC Screens & Demonstration
- Let’s Practice!
- A Review of Key Points
- Resources & Conclusion

Learning Goals

- By the end of this training, participants will be able to:
  - Explain why anthropometric measurements are important in the WIC program.
  - Identify and gain confidence with using the appropriate procedures for performing WIC client measurements.
  - Read measurements on a variety of equipment.
  - Convert measurements into the correct format and enter them into MI-WIC.
  - Describe the basic procedures for maintaining the equipment.



Discussion Questions

- Are there any anthropometric questions you would like to make sure we cover today?
- What do you find most challenging or intimidating about taking anthropometric measurements?



Why Anthropometric Measurements Matter

Why Do Anthropometric Measurements Matter?

- Measurements such as height and weight are:
  - Important indicators of nutrition and food intake. This can impact health and well-being.
  - Key tools to assess growth and development, particularly in young children.
- Measurements for infants and children:
  - Can help assess whether a child's growth is normal or delayed.
  - Allow growth patterns to be monitored based on standardized growth charts.
- Measurements for adults:
  - Identify whether a client is at a healthy weight, underweight, or overweight using their weight for height proportions with body mass index (BMI).



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The Importance of Anthropometric Measurements

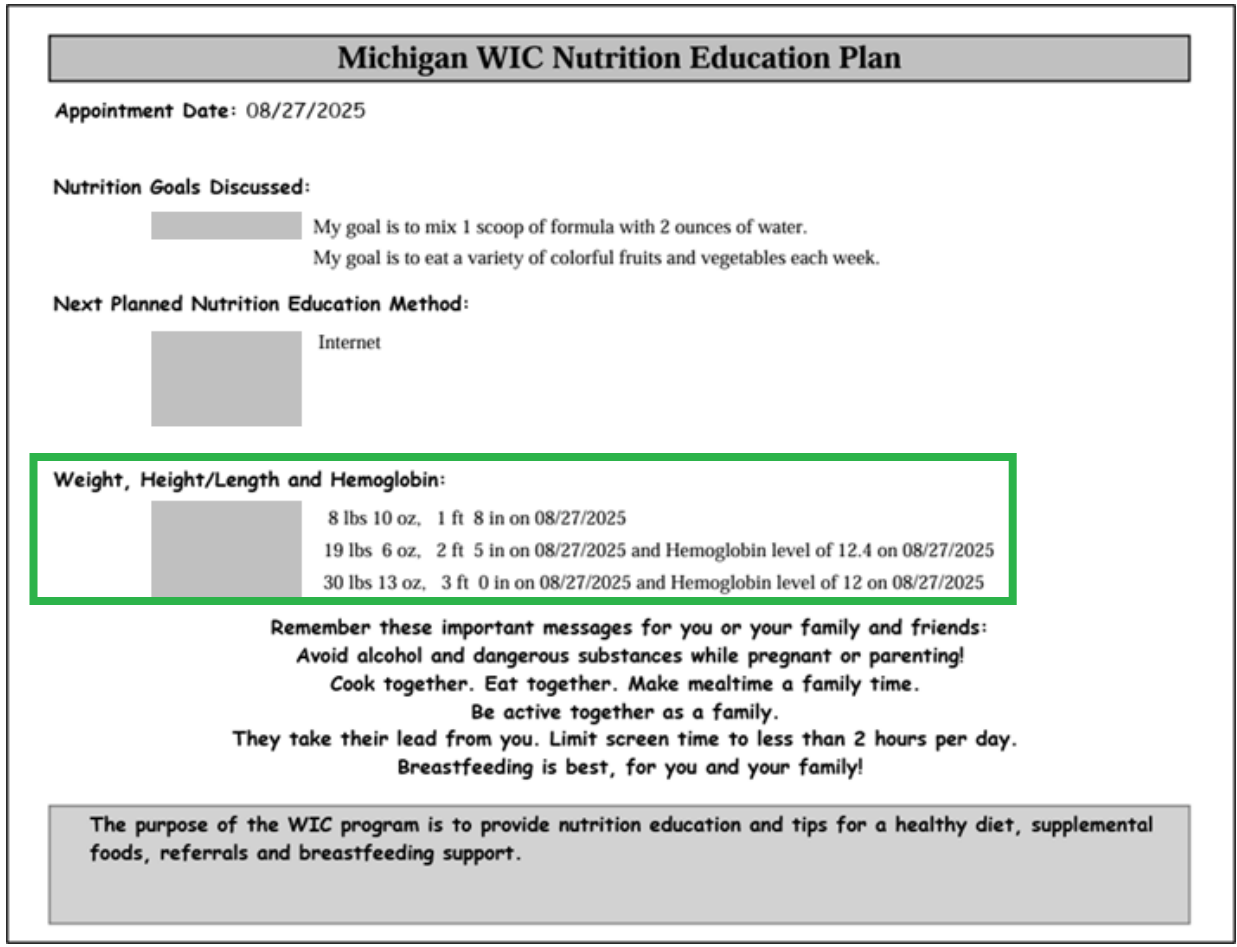
- Collecting accurate measurements is essential to providing high-quality WIC services to clients.
- Anthropometric measurements are collected to:
  - Provide objective health data to assess physical growth and development.
  - Evaluate a client's nutritional status.
  - Identify conditions that can impact health (overweight and underweight or potential developmental or neurological disabilities).
  - Identify clients at nutritional risk who would benefit from treatment and follow-up care.



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How WIC Uses Anthropometric Data

- The data collected by clerks and technicians is used by other staff to assess nutrition risk criteria:
  - The 100 series of nutritional risk codes are anthropometric risks.
  - Accurate measurements result in a more accurate risk assessment.
- Anthropometric data is listed in the nutrition education plan.



Michigan WIC Nutrition Education Plan

Appointment Date: 08/27/2025

Nutrition Goals Discussed:

My goal is to mix 1 scoop of formula with 2 ounces of water.
My goal is to eat a variety of colorful fruits and vegetables each week.

Next Planned Nutrition Education Method:

Internet

Weight, Height/Length and Hemoglobin:

8 lbs 10 oz, 1 ft 8 in on 08/27/2025
19 lbs 6 oz, 2 ft 5 in on 08/27/2025 and Hemoglobin level of 12.4 on 08/27/2025
30 lbs 13 oz, 3 ft 0 in on 08/27/2025 and Hemoglobin level of 12 on 08/27/2025

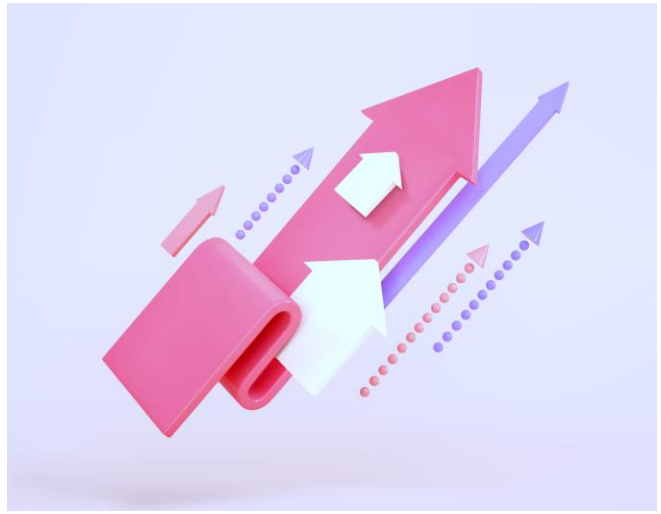
Remember these important messages for you or your family and friends:
Avoid alcohol and dangerous substances while pregnant or parenting!
Cook together. Eat together. Make mealtime a family time.
Be active together as a family.
They take their lead from you. Limit screen time to less than 2 hours per day.
Breastfeeding is best, for you and your family!

The purpose of the WIC program is to provide nutrition education and tips for a healthy diet, supplemental foods, referrals and breastfeeding support.

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Anthropometric Data & WIC: Michigan WIC Five-Year Plan

- Michigan's WIC Five-Year Plan includes key indicators, which consider anthropometric data, to drive program goals and objectives.
- The 2024-2028 indicators include:
  - First trimester entry
  - **Ideal pre-natal weight gain**
  - **Low birthweight**
  - Low hemoglobin (<5 years)
  - Breastfeeding initiation
  - 6-month breastfeeding duration
  - **Childhood obesity (2-5 years)**



- Learn more by going to: Michigan.gov/WIC → WIC Data → WIC Data & Reports→ Michigan WIC Five Year Plan.

The Importance of Anthropometric Training



- Ensures measurements are accurate and consistent.
  - Reduces variation between staff members.
  - Allows client measurement changes to be monitored over time.
- Prevents measurement errors.
  - Incorrect measurements can impact the ability to correctly assess client growth and health and nutritional risks.

Preparing to Take Measurements

Policy 2.15: Anthropometric Risk Determination

Policy Purpose: To maintain a consistent method for determination of risks based on anthropometric data.

- Height and weight measurements must be obtained on all WIC Program applicants at each certification. Measurements must be taken on all infants and children under two years. All measurements must be recorded and entered on the MI-WIC Anthro screen. For adults, pregnancy weight is also entered on the MI-WIC Anthro screen.
- The policy also discusses:
  - Where to find standard procedures and equipment.
  - How data is recorded.
  - Using growth charts for risk assessment.
  - Use of referral data.
  - Guidance (best practices).
- Resource: Michigan WIC Anthropometric Measurement Procedures.

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Referral Data



- Must be dated no more than 60 days from date of measurement. Less than 30 days is preferred for infants.
- Measurement precision:
  - Weight for infants and C1: nearest ounce (oz.).
  - Weight for C2-C4 and adults: nearest oz. preferred or within 1/4 pound (lb).
  - Head circumference: nearest 1/16 inch (in.), can be 1/8 in.
  - Length/height: nearest 1/8 in.
- Women's measurements must reflect the current certification category, not more than 60 days old.
- Enter the date the measurement was taken, not the current date, and include the source in "Comments."
- Take new measurements if questionable.
- Can convert Metric to English units in MI-WIC (more to come).

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Referral Data Continued

WIC ANTHROPOMETRIC AND LABORATORY INFORMATION REQUEST

Michigan Department of Health and Human Services

Medical Provider: Please complete the information below based on most recent visit.

Client 1 Full Name	Date of Birth	Parent/Guardian Name

Length/Height (in/cm)	Date Taken
Weight (lb/kg)	Date Taken
Head Circumference (in/cm) (<24 months)	Date Taken
Hemoglobin or Hematocrit	Date Taken
Lead Test/Method	Date Taken

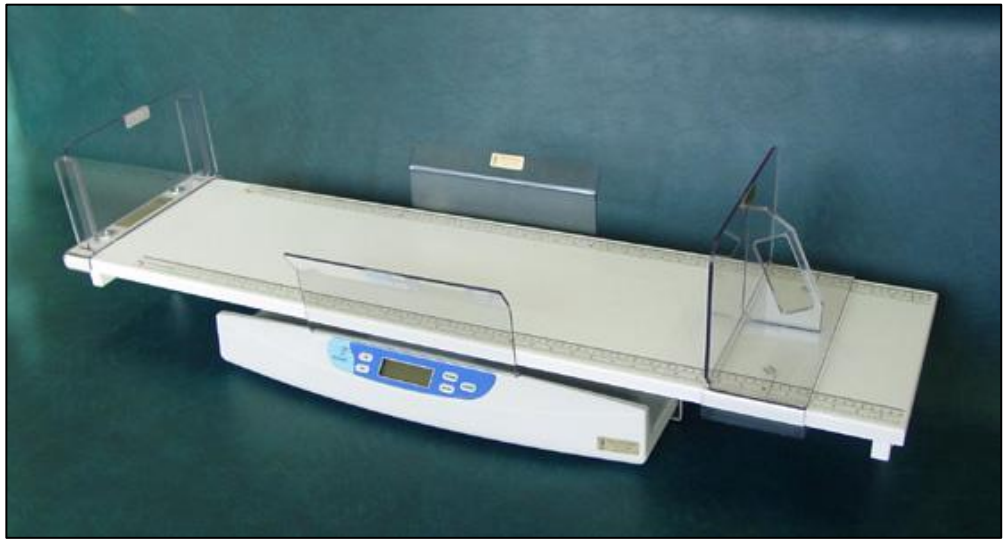
☐ Infants Only (if checked, complete)

Birth Length	Birth Weight	Birth Head Circumference	Weeks' Gestation

Resource: [WIC Anthropometric and Laboratory Information Request Form]

Anthropometric Supplies & Equipment

- Infants through C1 (children through 23 months):
  - Head circumference tape
  - Pediatric/infant scale
  - Infantometer/recumbent length board (lying down)
  - Disposable sheets or scale papers
  - Stable surface for equipment
  - Recording form



Infantometer and infant scale

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Anthropometric Supplies & Equipment Cont.

- C2-C4 (children 2 years up to 5 years) and Adult (any women client category):
  - Adult scale
  - Stadiometer (standing height)
  - Scale liners
  - Step stool
  - Recording Form



Stadiometer

Setting Up Your Screening Area

- Take measurements in a non-traffic area.
  - Such as a separate room or quiet area where all equipment is available to protect client privacy.
- Place infant equipment on a sturdy table or counter.
  - Place to allow one person to ensure the infant's head touches the infantometer headpiece.
- Have a handwashing station available.
  - Hand sanitizer is acceptable.
  - Wash or sanitize your hands before and after measuring infants.



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Taking & Confirming Measurements

Procedures for Taking Measurements

Category	Measurements	Timing	Equipment
Infants (Birth to 12 months)	Length, weight, head circumference	Certification, mid-certification/infant evaluation (IEVAL)	Infantometer, infant scale, head circumference tape
Children (12 through 23 months)	Length, weight, head circumference	Certification, mid-certification/child evaluation (CEVAL), recertification	Infantometer, infant scale, head circumference tape







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Procedures for Taking Measurements Cont.

Category	Measurements	Timing	Equipment
Children (2-5 years)	Height, weight	Certification, mid-certification/child evaluation (CEVAL), and recertification	Adult scale* (digital or beam), stadiometer
Adult (women client categories)	Height, weight	Certification, recertification/women evaluation (WEVAL)	Adult scale (digital or beam), stadiometer

*If two-year-old child must be measured lying down: record measurement, check "?" box, and explain in "Comments."
The measurement will be plotted on the growth chart as a red asterisk, but a risk code will not be assigned.





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Additional Data Requested

- In addition to taking measurements, the MI-WIC lab screen has prompts to ask about additional required data:
  - Infants/Children: Birth weight and completed weeks of gestation.
  - Pregnant Women: Pre-pregnancy weight.
  - Postpartum Women: Pre-pregnancy weight and weight gain during pregnancy.
- All of these except completed weeks of gestation are required by MI-WIC. It is highly recommended.



Entering Completed Weeks of Gestation

- Before saving measurements for the certification visit, enter “Completed Weeks of Gestation.”
- Agencies must have a consistent method of determining weeks of gestation.
- Record as *completed* weeks of gestation.
  - For example: 39 weeks and 6 days is recorded as 39 completed weeks of gestation.
- Accurate weeks of gestation is essential.
  - Determines how growth percentiles are calculated and certain risks.
  - Cannot be changed in MI-WIC after the day of entry.



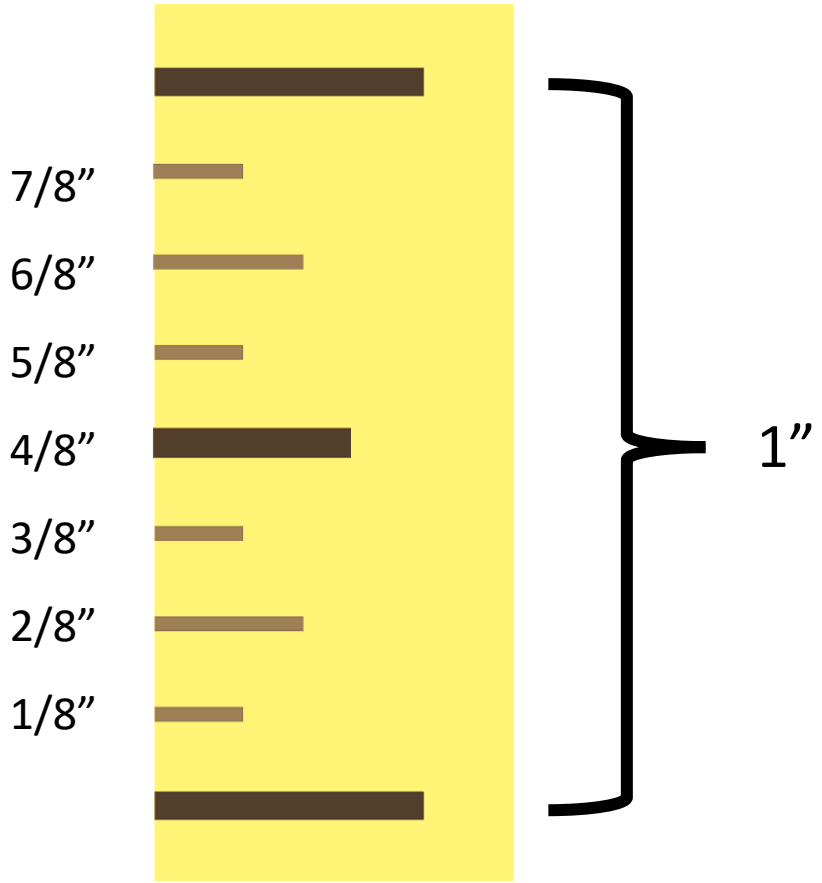
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Six Steps for Taking Accurate Measurements



1. Measure correctly.
2. Say the measurement out loud (important best practice).
3. Record the measurement exactly as read on the equipment.
4. Obtain a confirming measurement.
5. Round and convert the measurements for a MI-WIC format.
6. Enter data into MI-WIC as soon as possible.

Reading a Height or Head Circumference Measurement



Recording Form Sample

Anthropometric & Laboratory Data Recording Form: WIC Family ID Number: ____________________

	Client Names	First measurement	Second measurement	Confirming measurement	Measurement MI-WIC entry
	Height	in.	in.	in.	in. 1/16
1.					
2.					
3.					
4.					
	Weight	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.
1.					
2.					
3.					
4.					
	Head circumference	in.	in.	in.	in. 1/16
1.					
2.					
3.					
4.					
	Hemoglobin	g/dl	**Additional Lab Screen Data**		
1.			Pre-pregnancy weight (lbs.)		
2.			Pregnancy weight gain (lbs.)		
3.			Birth weight (lbs. and oz.)		
4.			Completed weeks of gestation (wks)		

* Please note the units if different than those listed in the chart.

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What is a Confirming Measurement?

- Two measurements in a row that fall within the allowed range:
  - **Height/length and head circumference:** within 2/16 inch (1/8 inch) or less.
  - **Infant scale weight:** within 1 oz or less.
  - **Adult scale weight**: within 1/4 lbs. (beam) or 0.2 lbs. (digital) or less.
- If they are not within allowed range, take an additional measurement.
- Use the second number as your confirming measurement.



When to Check “Unk” or “?” in MI-WIC

- “Unk” – Measurement is not known or cannot be taken.
- “?” – Measurement cannot be taken according to typical procedure.
  - Measurement is excluded from risk assessment.
  - For example: Child 2 years or older measure lying down; client has a cast; amputated or missing limb.
- Both require entering “Comments,” also recommended with referral data.
- Women category MI-WIC screens do not include the “?”.



Common Measurement Errors: Technique

- Not following the proper measurement procedures.
  - For example: Head measuring tape placed incorrectly, client wearing shoes or heavy clothes when weighed, client not correctly positioned when measuring height.
- Taking measurements when an infant or child is moving a lot or unmanageable due to crying, etc.
- Transposing measurements.
- Not taking a confirming measurement.
- Not recording measurements immediately.
- Also verify correct date of birth and the sex of child to ensure accurate growth charts and risk assignments.



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Common Measurement Errors: Equipment

- Using improper or inadequate equipment.
  - For example: Using bathroom and other spring scales, yardsticks and stretchable tapes, and steel tape not properly attached to flat vertical surface.
- Incorrectly using equipment.
  - For example: Forgetting to zero-balance scales, incorrectly positioning the equipment or the client.
- Not properly maintaining equipment
  - For example: Equipment needs to be calibrated, using worn, loose, or broken sliding headboards and footboards.

The Impact of Common Errors



Inaccurate information about a client's growth and growth pattern.



Misrepresentation of the client's nutritional status.



Missing important risk indicators or causing unnecessary concern.



Offered counseling and referrals when not at risk or failing to do so when needed.

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Tips for Collaborating with the Parent/Caregiver

- If you need their assistance with positioning their infant/child, give brief instructions *before* taking measurements.
- Encourage them to talk to their infant/child in a soothing voice and be a calming presence.
- Parents/caregivers can help prepare for the future appointments by talking to children about what to expect.



Calming a Crying Baby



Source: How to Calm A Crying Baby – Dr. Robert Hamilton Demonstrates “The Hold”

Tips for Calming Toddlers and Preschoolers

- Explain what will happen and what they will do in simple terms.
- Give them simple choices. “Which shoe do you want to take off first?”
- Use distraction, such as pointing to a poster or singing a simple song.
- Use the “tare” method to weigh a child who cannot or is too upset to be weighed by themself: weigh the adult and child together and subtract the weight of the adult.



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Converting, Rounding, & Entering Measurements into MI-WIC

Converting Measurements for MI-WIC

Anthropometric Data

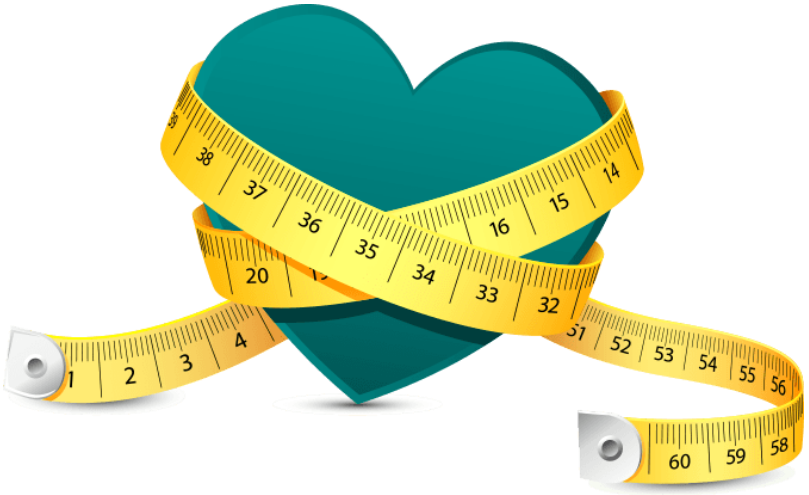
			Height				Weight				Head Circum				
	Date*	Age	in*	1/16*	Unk	?	lbs*	oz*	Unk	?	in*	1/16*	Unk	?	BMI
	06/21/2025	7 m, 0 w	29	3	☐	☐	18	3	☐	☐	18	8	☐	☐	N/A

If a measurement is in increments other than 1/16, it must be converted into MI-WIC units.

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Steps for Recording Measurements

1. Record the measurement value on the recording form exactly as read on the equipment, including units.
2. Convert weight measurements.
   - Convert from English to Metric if needed.
   - Height and head circumference must be converted to nearest 16th.
   - Weights in decimals on a digital scale must be converted to ounces.
   - Weights with ounce fractions and of an ounce must be rounded to nearest ounce.
3. Record in MI-WIC.



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Chart for Converting Fractions

Example: ½ inch is how many 16ths?

Measurement	Equivalent Fraction(s)	MI-WIC Entry
1/16		1
2/16	1/8	2
3/16		3
4/16	2/8 or 1/4	4
5/16		5
6/16	3/8	6
7/16		7
8/16	4/8 or 2/4 or 1/2	8
9/16		9
10/16	5/8	10
11/16		11
12/16	6/8 or 3/4	12
13/16		13
14/16	7/8	14
15/16		15

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Another Way to Convert Fractions

1. Write down the fraction. $\frac{5}{8}$
2. Write 16 across from the bottom number. $\frac{5}{8} = \frac{}{16}$
3. Multiply the top number on the left with 16 and divide by the number on the bottom left. $5x16/8=$
4. Write down the answer. $5x16/8=10$

Example: How would you convert 3/8 to 16ths?

Converting Decimals in MI-WIC

- If your adult digital scale has decimals, there's a helpful MI-WIC feature.
  - Enter pounds with the decimal up to two digits.
  - Click "tab" on your keyboard and MI-WIC will convert to ounces.
- Do **not** use "tab" with an infant whose weight measures are a fraction of an ounce.
  - For example: 10 lbs. 2.5 oz.



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Manually Converting Tenths of Pounds to Ounces

Decimal in Pounds	Equivalent Ounces
0.1	2
0.2	3
0.3	5
0.4	6
0.5	8
0.6	10
0.7	11
0.8	13
0.9	14



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Rounding with Infant Scales



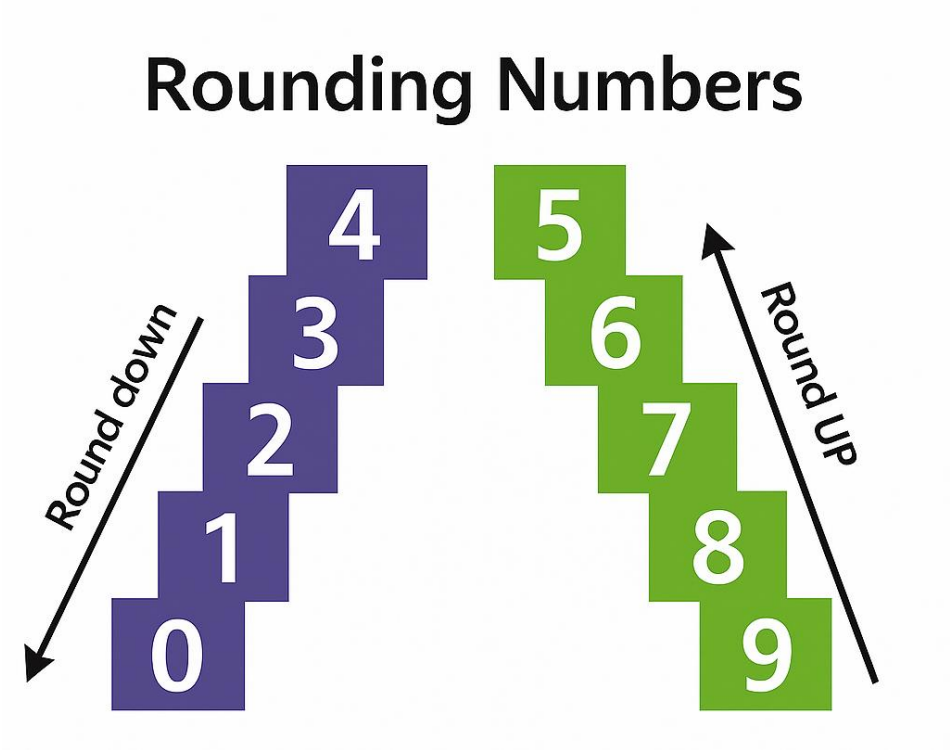
- The sensitivity of infant scales vary.
  - Many are sensitive to the nearest ounce.
  - Some are sensitive to the nearest tenth ounce. For example: 19 lbs. 2.8 oz.
- If a scale reads to the tenth ounce, it must be rounded to the nearest ounce.
  - Last digit is **more than or equal** to ½ or 0.5 → round up.
  - Last digit is **less than** ½ or 0.5 → round down.
- **Examples:**
  - 14 lbs. 2 1/4 oz
  - 27 lbs. 7.6 oz
  - 6 lbs. 9.5 oz



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Rounding Fractions of an Ounce

Original Number	Rounding	Final Number
8 lbs. 9.1 oz	Round down ↓	8 lbs. 9 oz
8 lbs. 9.2 oz	Round down ↓	8 lbs. 9 oz
8 lbs. 9.3 oz	Round down ↓	8 lbs. 9 oz
8 lbs. 9.4 oz	Round down ↓	8 lbs. 9 oz
8 lbs. 9.5 oz	Round up ↑	8 lbs. 10 oz
8 lbs. 9.6 oz	Round up ↑	8 lbs. 10 oz
8 lbs. 9.7 oz	Round up ↑	8 lbs. 10 oz
8 lbs. 9.8 oz	Round up ↑	8 lbs. 10 oz
8 lbs. 9.9 oz	Round up ↑	8 lbs. 10 oz



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Perspective Enterprises
Skills & Equipment Demonstration

Equipment Maintenance

- All measurement devices should be validated with an independent measurement, e.g., calibration rod and scale weights.
- Inspect scales annually.
- Infant scale sensitivity: 1 oz.
- Adult scale sensitivity: 0.2 lbs. for digital scale and 1/4 lb. (4 oz.) for beam scale.
- Ensure adult scale is accurate at 10 lbs. and 100 lbs.
- Secure a scale before moving it.
- Recommend infantometers/stadiometers are calibrated to be accurate within 1/8 in., 1/16 in. is even better.



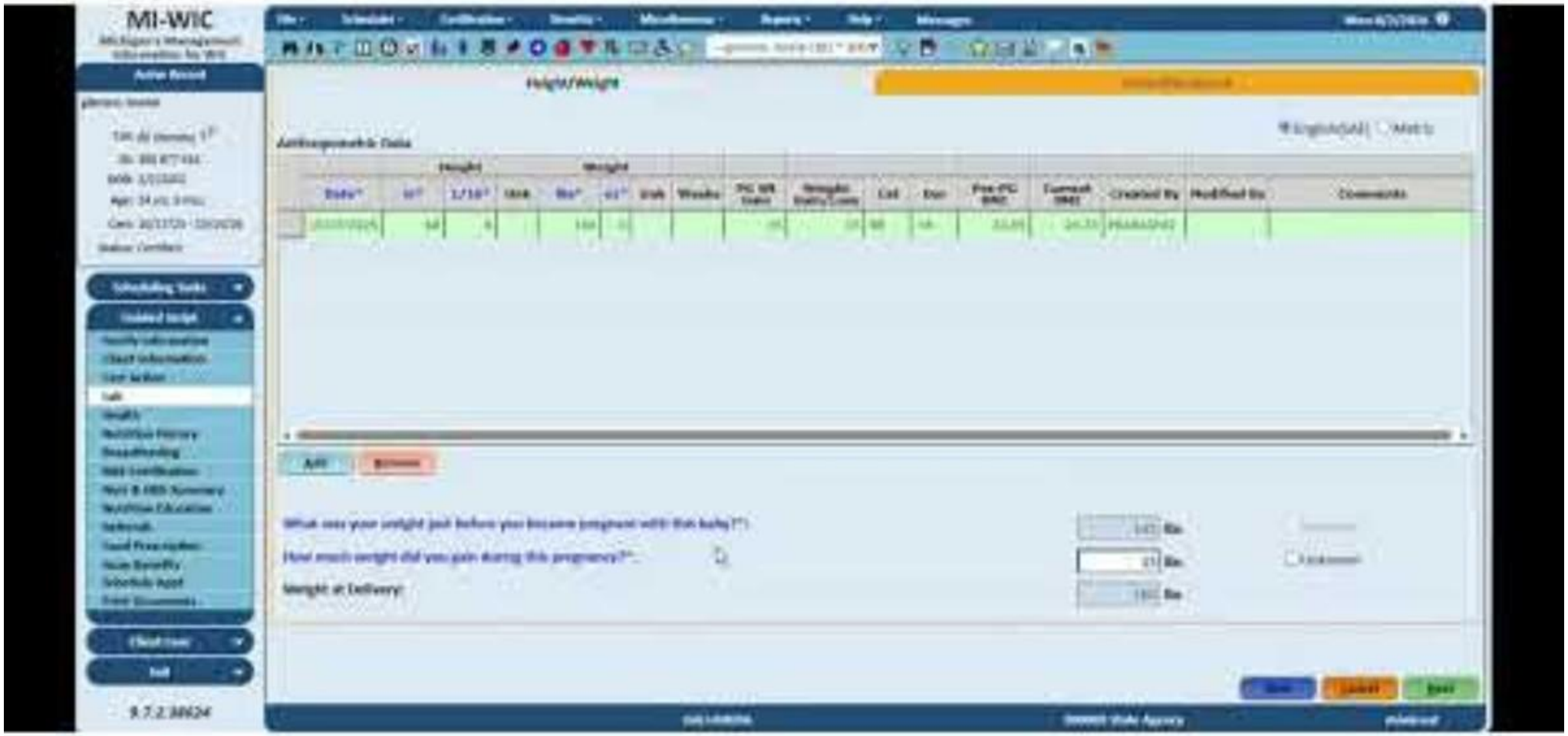
Cleaning Measurement Equipment

- Each clinic should establish standard cleaning and disinfecting protocols.
- Clean all equipment regularly by spraying a cleaning solution onto a paper towel, wiping the equipment, and following with a dry paper towel.
- Clean and disinfect equipment immediately if contaminated with feces, urine, spit up, etc.
- Clean other high touch areas and shared equipment.



MI-WIC Screens & Demonstration

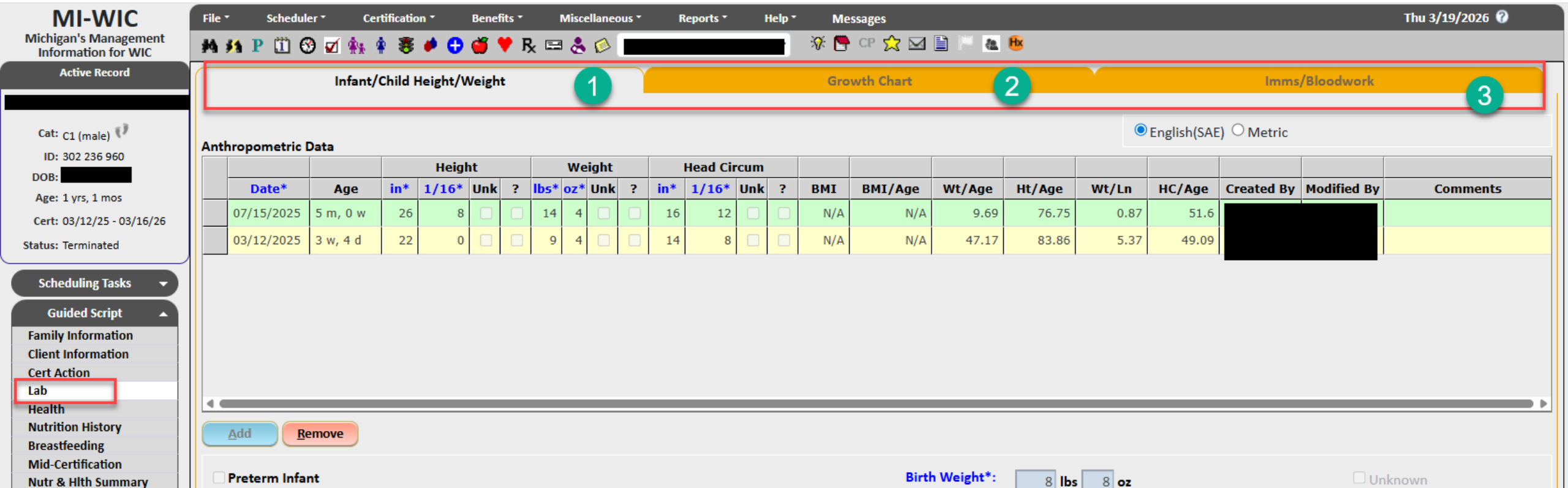
MI-WIC Lab Screen Demonstration



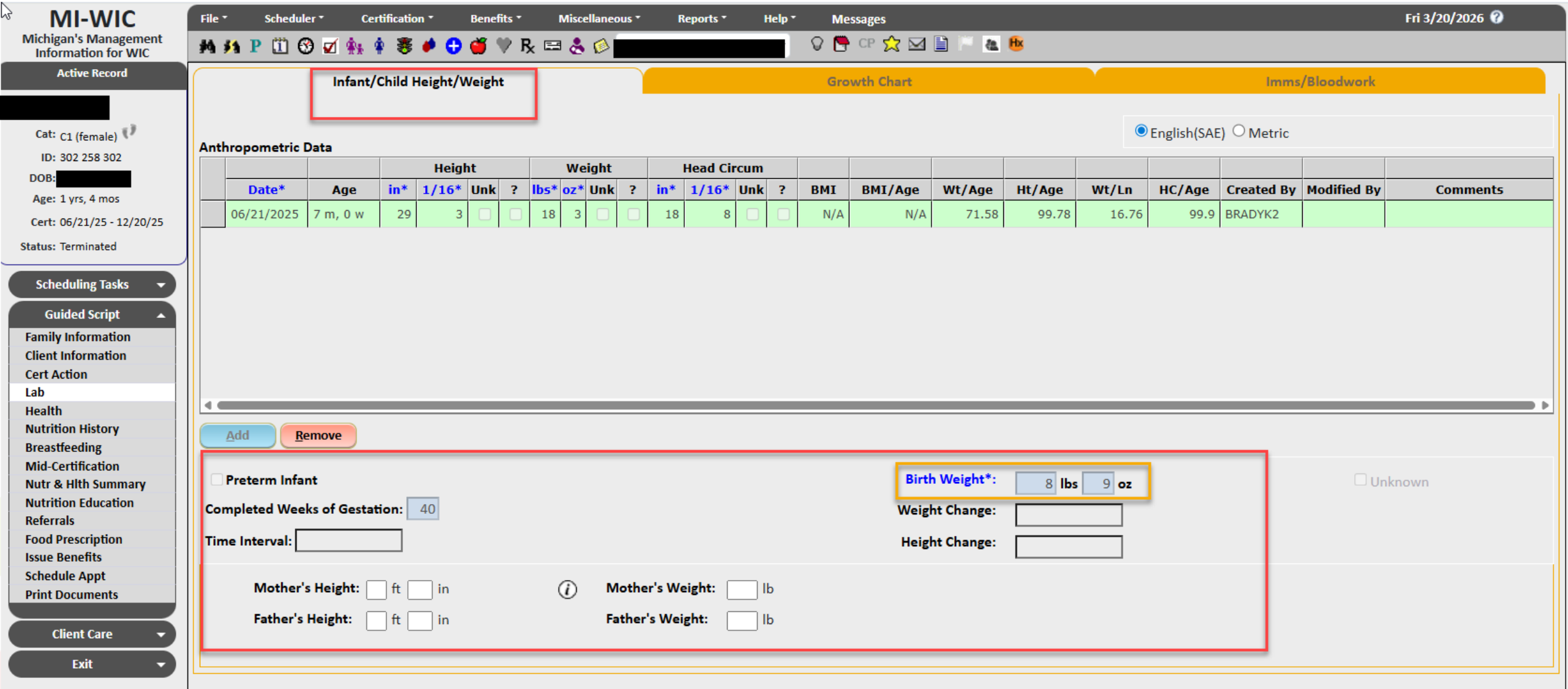
Source: [MI-WIC Lab Screen Demonstration Video]

MI-WIC Lab Screen

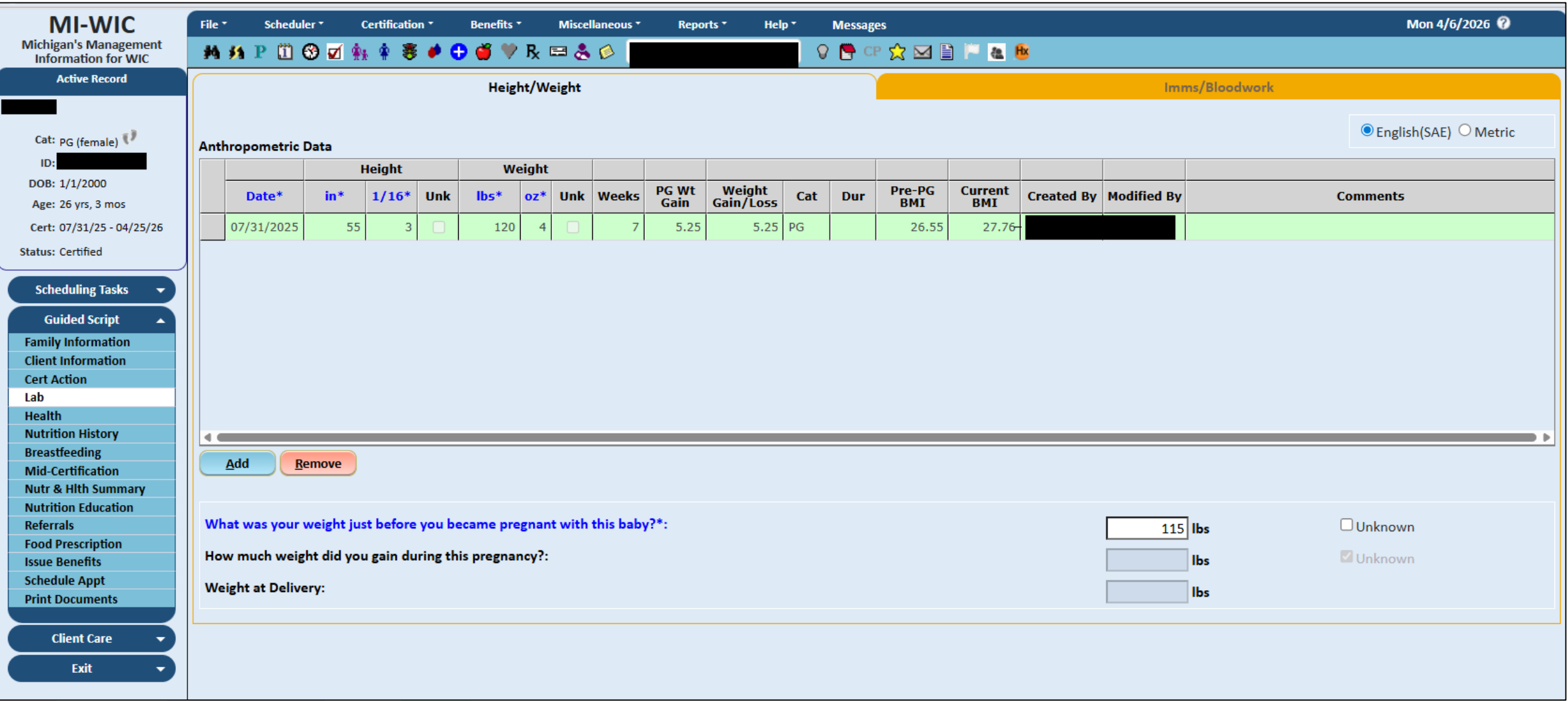
- The lab screens vary by client category: Infant-C1, C2-C4, pregnant, and postpartum.
- Lab screens can be accessed through the guided script on the left, blood drop icon, or certification dropdown menu at the top.



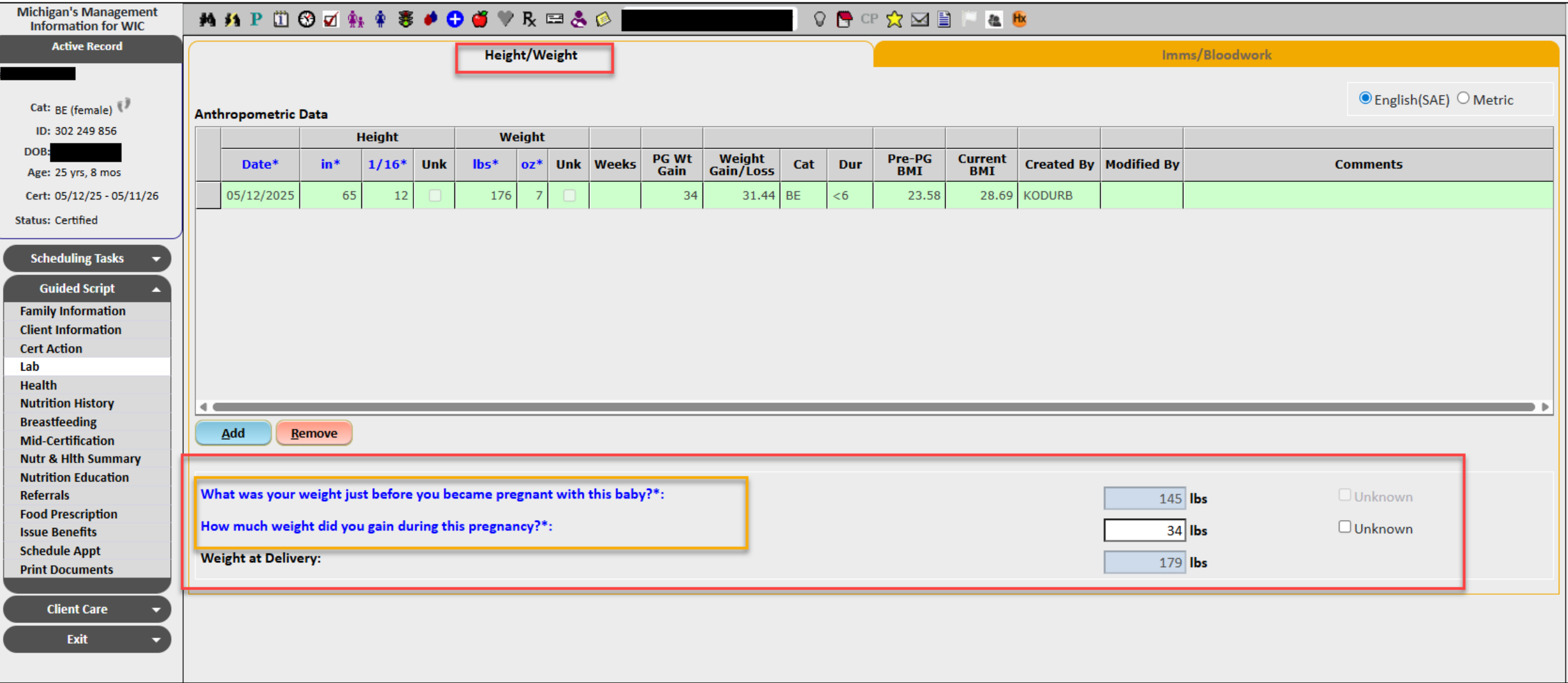
MI-WIC: Infant/Child Height/Weight Screen

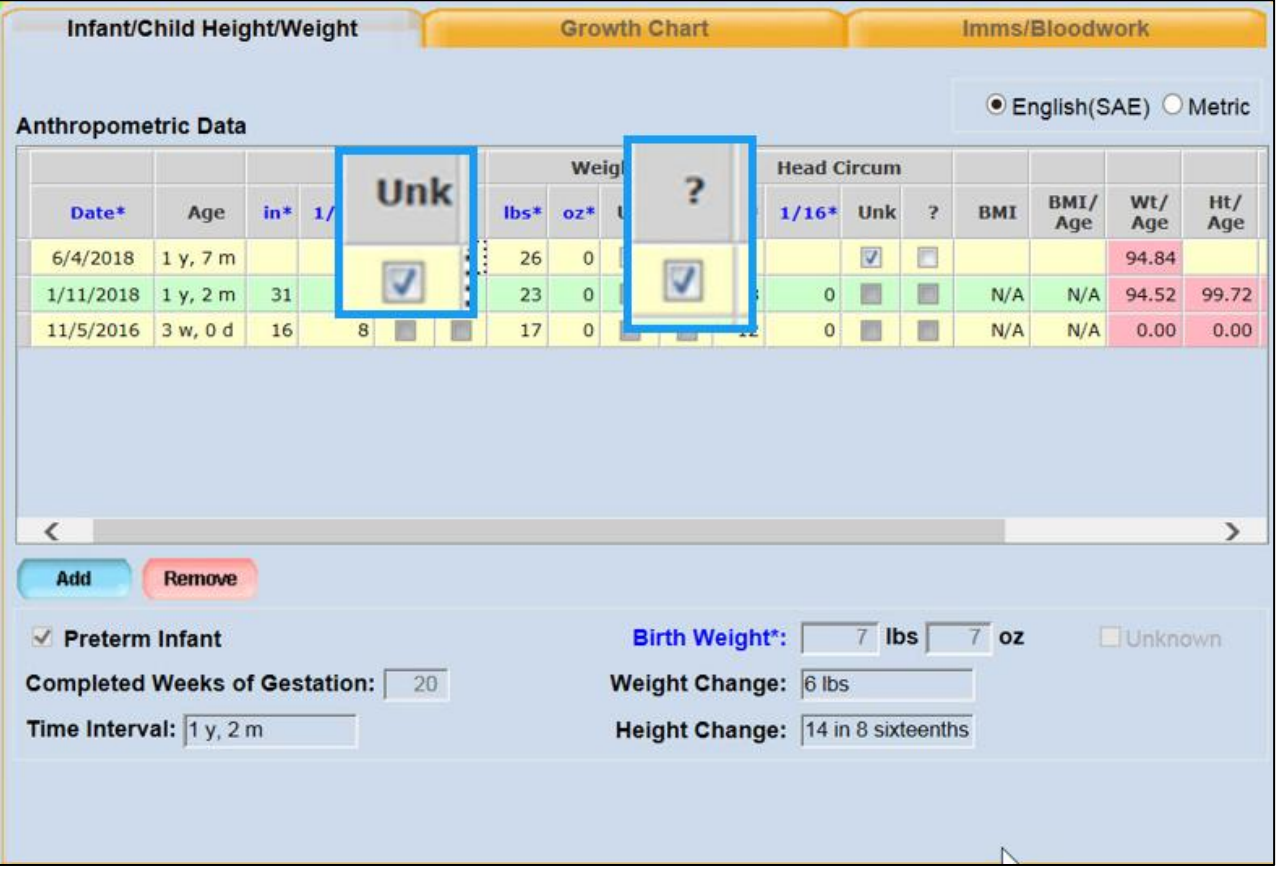


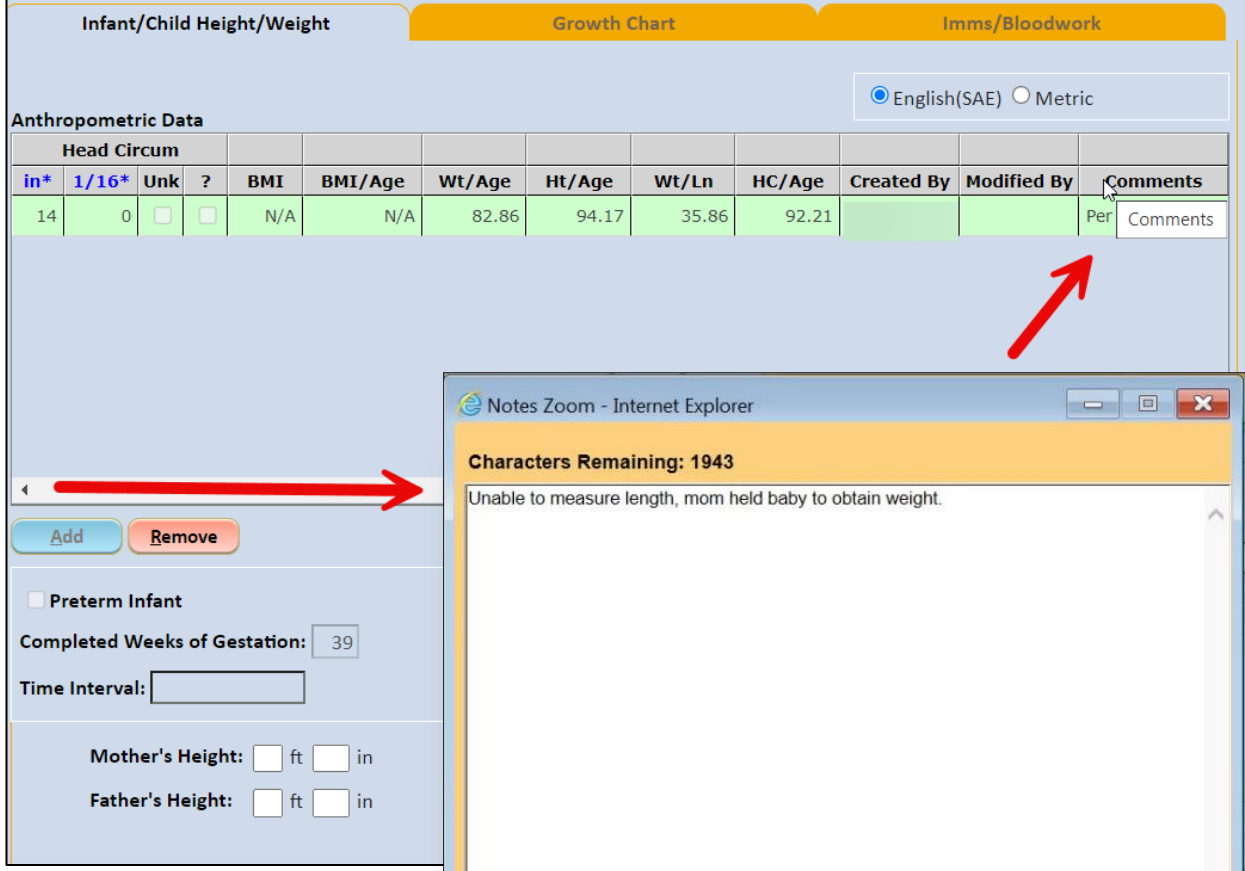
MI-WIC: Pregnant (PG) Women Height/Weight Screen



MI-WIC: Postpartum Women Height/Weight Screen







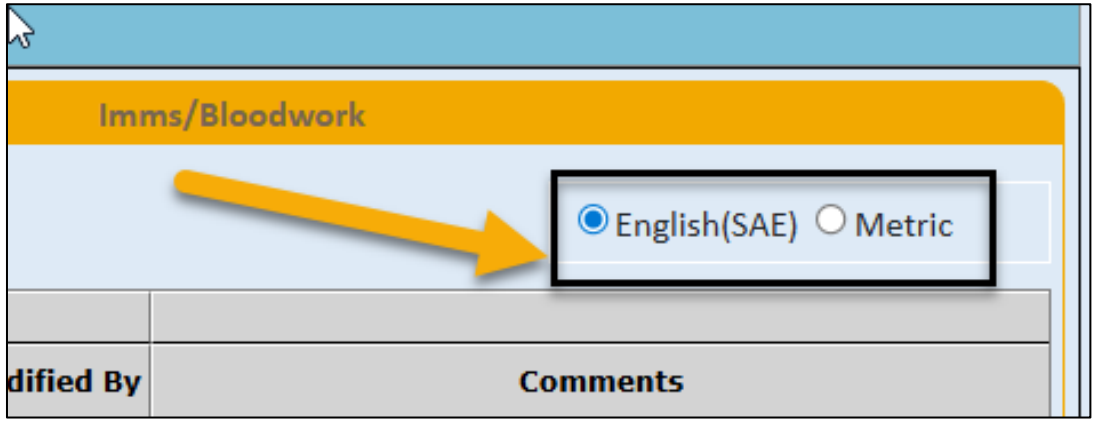
Checking the “Unk” or “?”

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Converting Metric to English

If measurements or reported in a combination of English and Metric values, follow these steps:

- Select the Metric button.
- Check “Unk” for English data.
- Enter the Metric data and **save.**
- Select “English.”
- The metric data should now be in English.
- Uncheck “Unk” and enter any English data.
- Click **save**.





Let's Practice!

Examples: Recording Weight/Height Values

- Weight: 27 lbs. 15 3/4 oz.
  - Recording form: 27 lbs. 15 3/4 oz.
  - MI-WIC: 28 lbs. 0 oz.
- Weight: 22.8 lb.
  - Recording form: 22.8 lb.
  - MI-WIC: 22 lbs. 13 oz.
- Weight: 108.6 lbs.
  - Recording form: 108.6 lbs.
  - MI-WIC: record 108.6 lbs. and click "tab" to convert to 108 lbs. 10 oz.
- Length: 36 1/4 in.
  - Recording form: 36 1/4 in.
  - MI-WIC: 36 in. 4 (1/16)
- Height: 4 ft. 7 5/8 in.
  - Recording form: 55 5/8 in.
  - MI-WIC: 55 in. 10 (1/16)

Anthropometrics Worksheet

	Client Names	First measurement	Second measurement	Confirming measurement	Measurement MI-WIC entry
	Height	in.	in.	in.	in. 1/16
1.	WIC Infant #1	24 3/8	24 2/8		
2.	WIC Child #2	39 12/16	39 13/16		
3.	WIC PG Woman #3	65 4/8	65 3/8		
4.					
	Weight	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.
1.	WIC Infant #1	20 5 1/8	20 5 3/8		
2.	WIC Child #2	52.8	52.6		
3.	WIC PG Woman #3	155.0	155.2		
4.					
	Head circumference	in.	in.	in.	in. 1/16
1.	WIC Infant #1	15 6/8	15 5/8		
2.	WIC Child #2	N/A			
3.	WIC PG Woman #3	N/A			
4.					

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Potential Clinic Scenarios

1

A child (C2) is unable to be measured standing up for height.

2

A C1 client has a hairstyle that could change the height or head circumference.

3

A child (C4) is unable or unwilling to stand for a weight measurement.

4

An infant comes into the clinic with referral data that is more than 30 days old.

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A Review of Key Points

Anthropometric Training Key Point #1

The main goal of anthropometric training is to learn procedures and techniques that will result in:

- Consistent measurement techniques.
- Improvements in accuracy.
- Fewer errors.



Anthropometric Training Key Point #2

Measurement procedures must align with each client's category:

- Infants and C1: Head circumference, recumbent length, and weight (infant scale)
- C2-C4 and Adult: Standing height and weight (adult scale)



Anthropometric Training Key Point #3

Infant scales must be zero-balanced with a paper sheet and a dry diaper (medium size - size 3). Remove the diaper from the scale to weigh the child.

A digital scale must be zero-balanced for every weight taken unless the scale has a re-weigh function.

A beam scale must be zero-balanced at least daily.



Anthropometric Training Key Point #4

To help prevent errors, say every measurement out loud and write it down immediately.



Anthropometric Training Key Point #5

Measurement values must first be recorded in the units of the measurement equipment.

Do not transpose, convert, or round numbers before recording them. Record them exactly as they are read from the equipment.



Anthropometric Training Key Point #6

Weeks of gestation must be entered accurately for MI-WIC to correctly calculate growth chart percentiles.

WIC policy: Clinics must have consistent procedure for determining completed weeks of gestation.



Anthropometric Training Key Point #7

Confirming measurements are important for accuracy.

Many errors, such as, transposing numbers, equipment failures, or improper techniques can be caught by confirming measurements.



Anthropometric Training Key Point #8

Check “Unk” if a measurement is not known and enter a comment.

Check “?” if measurement could not be taken according to procedure and enter a comment.

For referral measurement data, enter a comment for the source of the data.



Resources & Conclusion

Resources



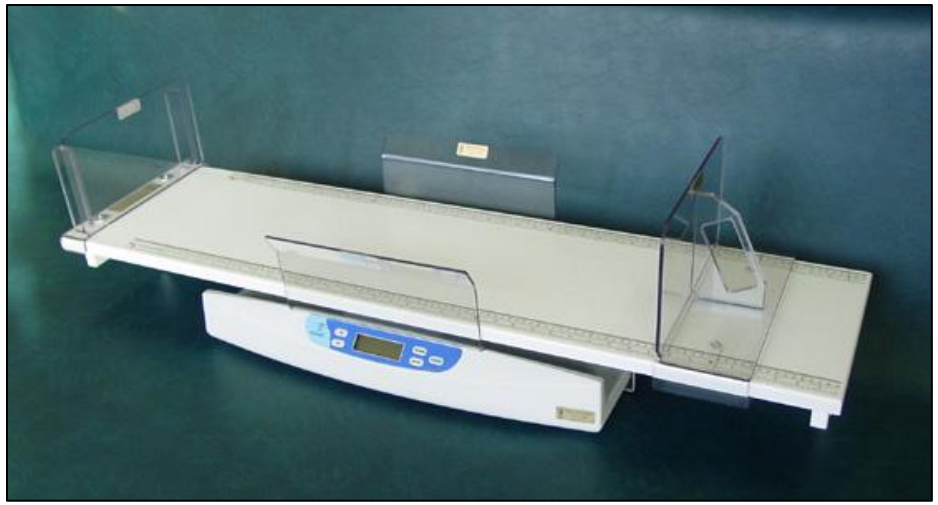
- **MPHI Training Handouts**
  - Virtual Training Agenda
  - Presentation Slides
  - Training Worksheet
  - Anthropometric and Laboratory Recording Form
  - Anthropometric Measurement Procedure Checklist
  - Converting to MI-WIC Format
  - MI-WIC Data Entry sheets
  - Rounding Fractions

  (As well as the resources to the right column, also on Michigan.gov/WIC.)

- **Michigan.gov/WIC**
  - Anthropometric Manual and Manual Appendices
  - Policy 2.15 Anthropometric Risk Determination
  - Anthropometric Competency Checklist, Infants and C1
  - Anthropometric Competency Checklist, C2-C4 and Women

WIC MICHIGAN

Thank You to Perspective Enterprises for the Measurement Equipment Demonstration











Whatever you do today, do it with the confidence of a 4-year-old wearing a cape.

Thank you!

Please complete the evaluation.

- We would love your feedback!
- Required to receive a continuing education certificate.

Add this training to your Staff Training in MI-WIC.

More questions about anthropometrics?

- Email Amanda Gallaher at GallaherA@michigan.gov or call the WIC helpline at 1-800-942-1636, option 2.