



# PG Residency Pediatrics

## Nutrition

Smart Notes. Better Scores.



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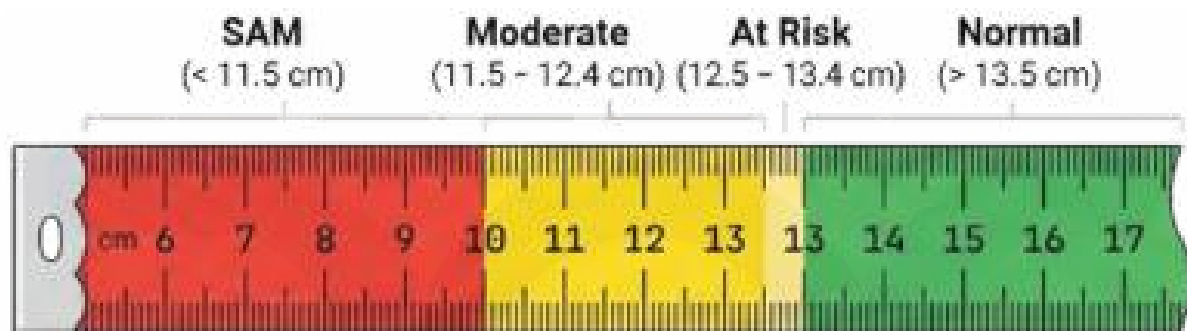
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## Severe Acute Malnutrition (SAM) Criteria

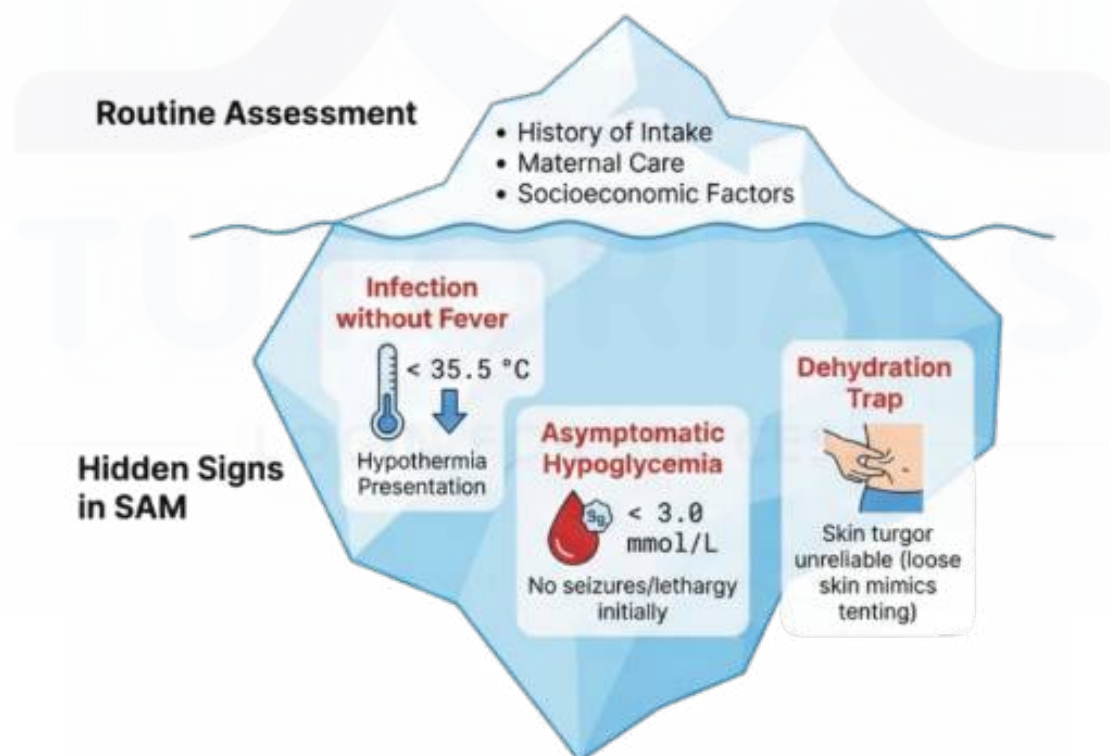
- Age: 6 months - 5 years
- Weight-for-Height: **< -3 SD** (WHO Standards)
- Physical Signs: Severe visible wasting OR Bilateral pedal edema
- MUAC: **<11.5 cm**

**Clinical Scope:** Undernutrition & Overnutrition.

**Common Comorbidities:** TB, Cardiac, CF, Chronic Diarrhea



## Assessment Principles: The Silent Dangers



### ⚠️ Safety Alert

**PRIORITY: Assess ABCS First (Airway, Breathing, Circulation)**

Children with SAM are effectively immuno-compromised.

## Clinical Differentiation: Marasmus vs. Kwashiorkor

### Marasmus

Calorie Deficiency



- **Appearance:** Severe wasting, "Baggy pants" loose skin
- **Mental Status:** Alert
- **Edema:** Absent
- **APPETITE:** VORACIOUS / GOOD

### Kwashiorkor

Protein Deficiency



- **Appearance:** "Sugar baby" (deceptive fat), "Flaky paint" dermatosis
- **Mental Status:** Apathetic, miserable
- **Edema:** Present (Generalized)
- **APPETITE:** POOR

### Common Critical Signs

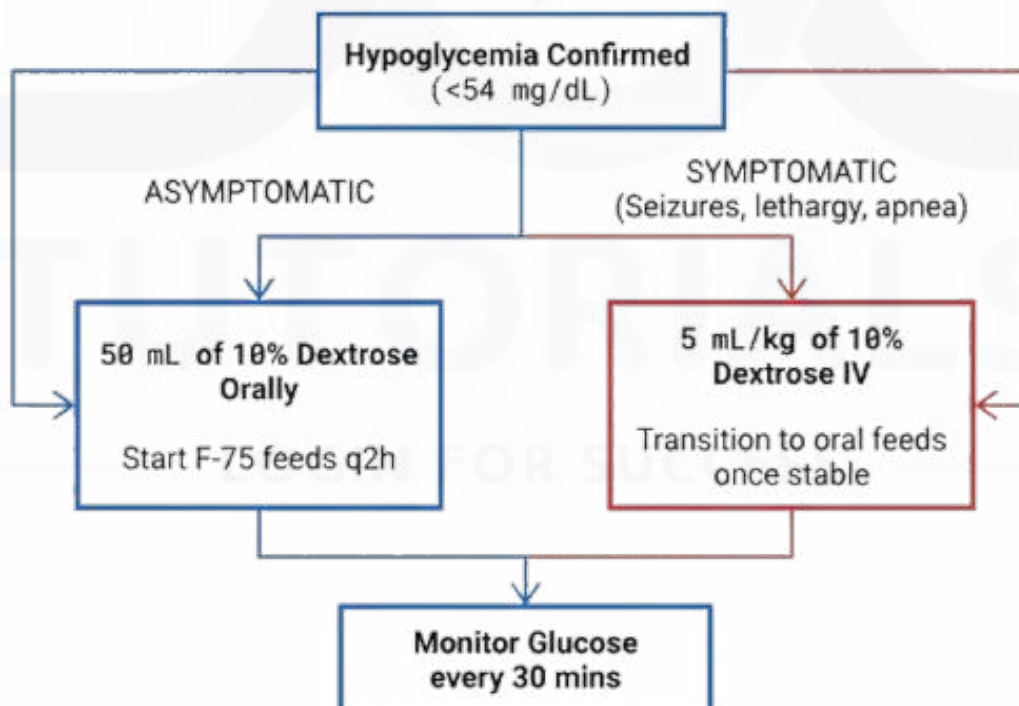
Shock (Cold extremities, weak pulse) Deficiencies (Vit A/D eye signs) Dermatitis

## Management Timeline: Stabilization to Rehabilitation

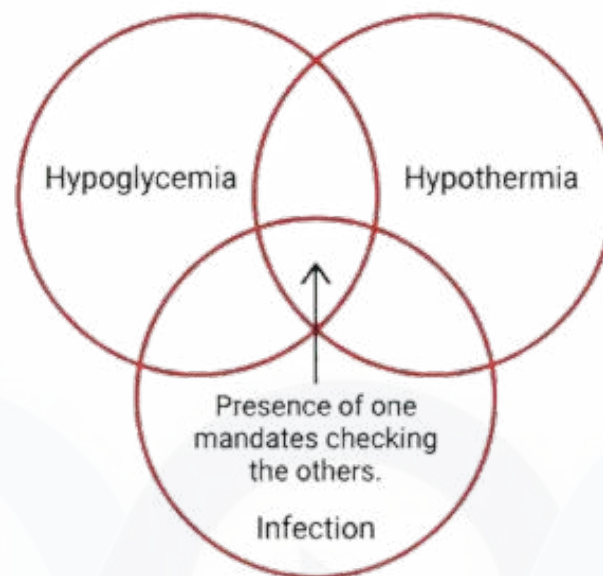


### Critical Action: Hypoglycemia Protocol

Cutoff: < 54 mg/dL (<3 mmol/L). Check at first contact.



## The Lethal Triad

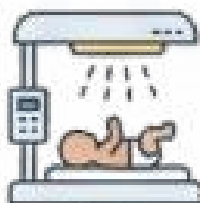


## Thermoregulation & Electrolyte Safety

### Thermoregulation

Hypothermia Cutoff:

**Rectal Temp < 35.5°C (95.9°F)**



Radiant Warmer



Kangaroo Mother Care



Hat/Head Cover

**Monitor every 2 hours.** Feeding aids thermogenesis.



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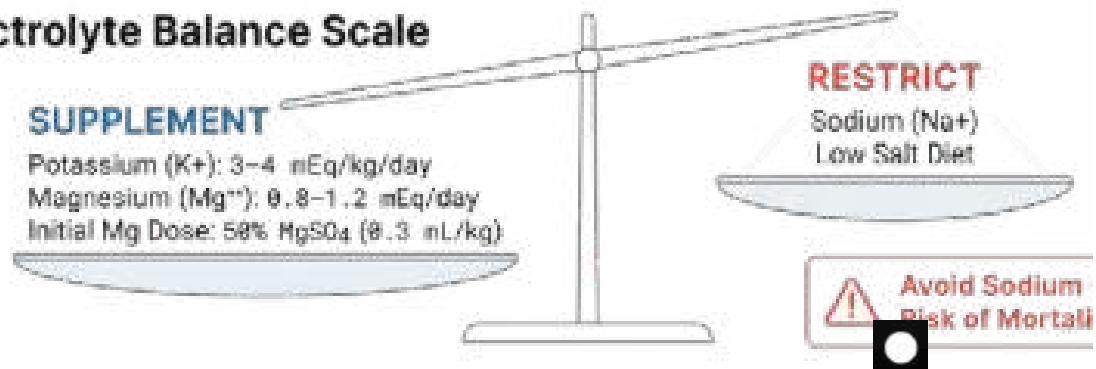
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## Electrolyte Balance Scale

### Electrolyte Balance Scale



▲ **Avoid Sodium Overload. Risk of Mortality.**

## Infection Protocol & Micronutrients

### Empirical Antibiotics Strategy

- 1. Collect Samples (Blood, Urine, CXR) during IV cannulation.**
- 2. First Line: Inj. Ampicillin (50 mg/kg BID) x 2 days.**
- 3. Followed by: Inj. Gentamicin (5–8 mg/kg/day) x 5 days.**
- 4. Review at 48 hrs. Modify if no improvement.**

### Micronutrient Dosing Table

| Nutrient    | Dose/Schedule                                  |
|-------------|------------------------------------------------|
| Vitamin A   | <6mo: 50k IU   6–12mo: 100k IU   >1yr: 200k IU |
| Folic Acid  | 1 mg/day (Load 5mg Day 1)                      |
| Zinc        | 2 mg/kg/day                                    |
| Copper      | 0.2–0.3 mg/kg/day                              |
| <b>IRON</b> | 3 mg/kg/day                                    |

**STOP**

**START ONLY IN REHABILITATION PHASE. Do NOT give in stabilization.**

## Refeeding & Discharge Safety Check

### Formula Transition



### Discharge Checklist

#### Ready for Discharge?

- **Anthropometry:** Weight-for-Height  $\geq 90\%$  median
- **Clinical:** No Edema, Alert, Feeding well
- **Growth:** Weightgain  $\geq 5 \text{ g/kg/day}$  (3consecutive days)
- **Medical:** Infections treated, Immunizations complete

### Community Prevention Targets

ICDS Target: < 6 years

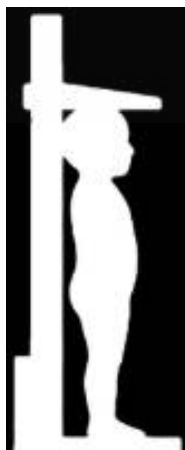
Mid-Day Meal: 450kcal/12gprotein(Primary) 700kcal/20g protein (Upper Primary)

## Anthropometry Tools & Velocity

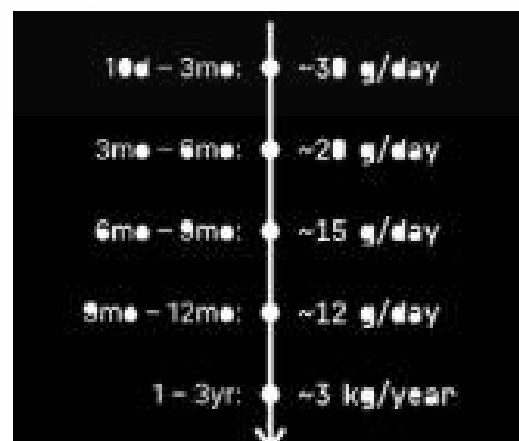
Length | <2Years)



Height (> 2 Years)

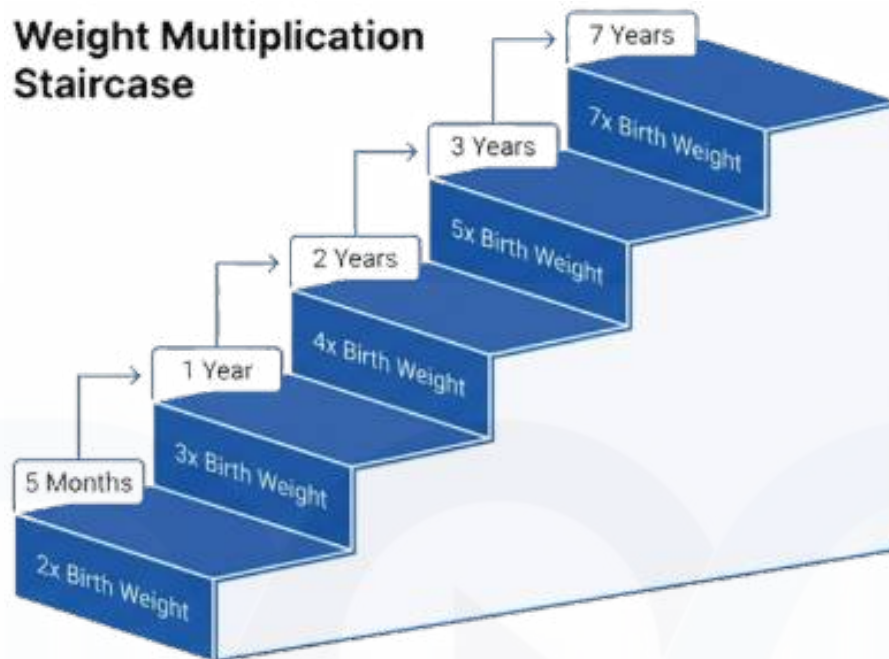


Weight Gain Velocity (Term Infants)



## Growth Benchmarks & Formulas

### Weight Multiplication Staircase



### Quick Estimation Formulas

Weight (1-6yr):  $(\text{Age in years} \times 2) + 8$

Height (up to 12y):  $(\text{Age} \times 6) + 77$

### Positioning Check



## Head Circumference & MUAC Details

### Head Circumference (HC)

Birth: 35 cm    3 mo: 40 cm    □ 1 yr: 45 – 46 cm

Microcephaly: < -3 SD

### Mid-Upper Arm Circumference (MUAC)

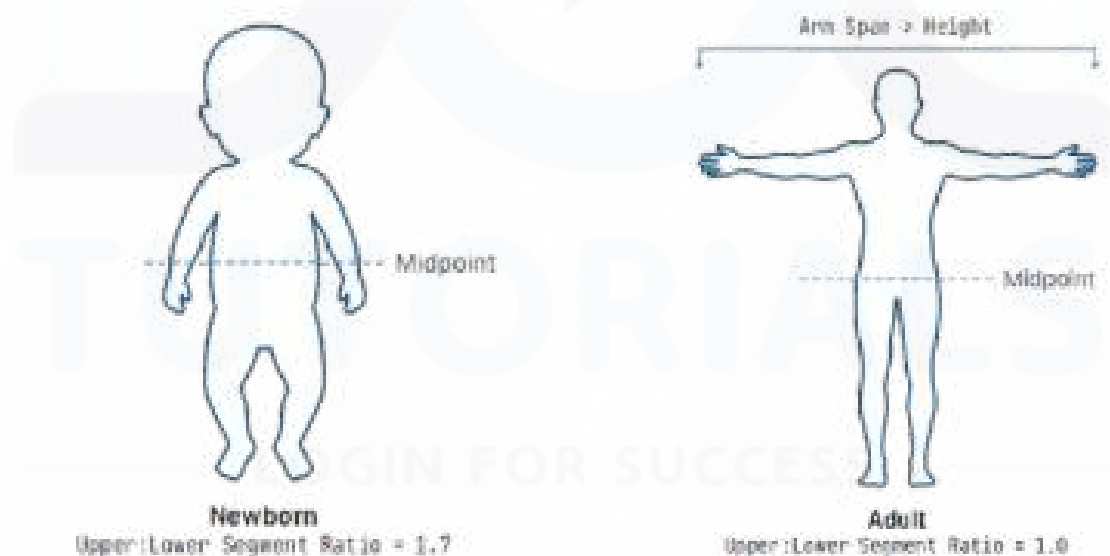
Age Independent: 1–5 years (Avg ~15 cm)

Measurement Site: Midpoint between acromion and olecranon.



## Body Proportions & Indices

### Proportion Transformation

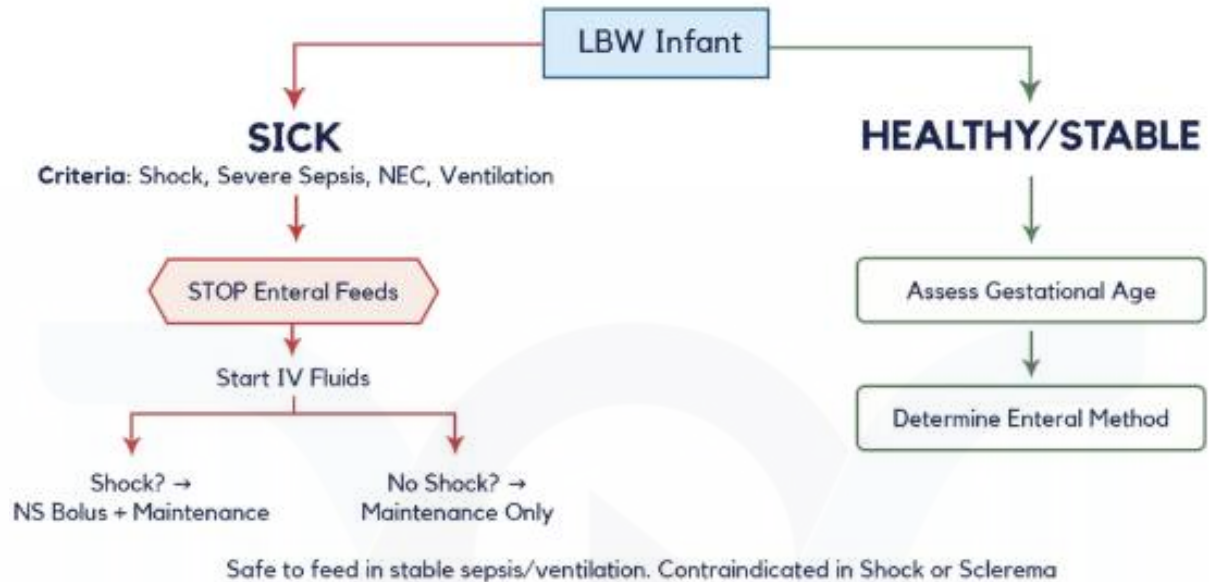


### Key Indices

- **BMI:** Weight/Height<sup>2</sup> (>95th% = Obese)  
Formula: Weight/2  
Cutoff:> 95th%
- **Ponderal Index:**  
Weight/Height<sup>3</sup>  
(SFD < 2, Normal > 2.5)

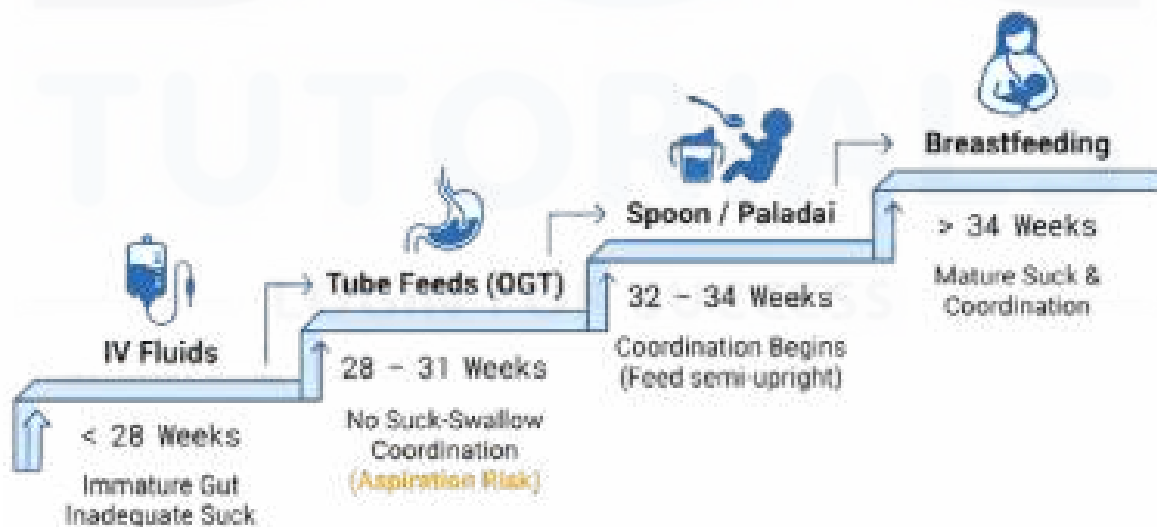
## LBW Protocol: Triage & Initial Safety

Low Birth Weight (<2500g). Primary Decision: Sick vs. Stable.



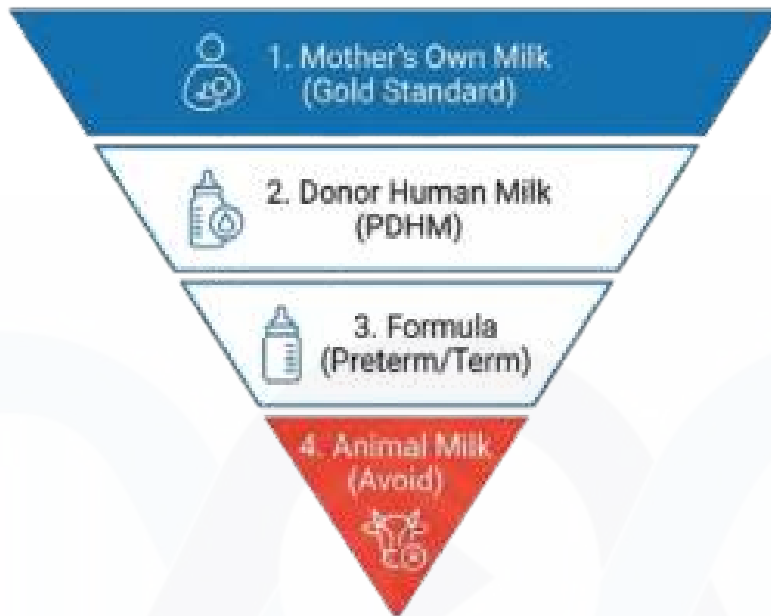
## Healthy LBW: Feeding Method by Gestational Age

Maturation of Feeding Skills

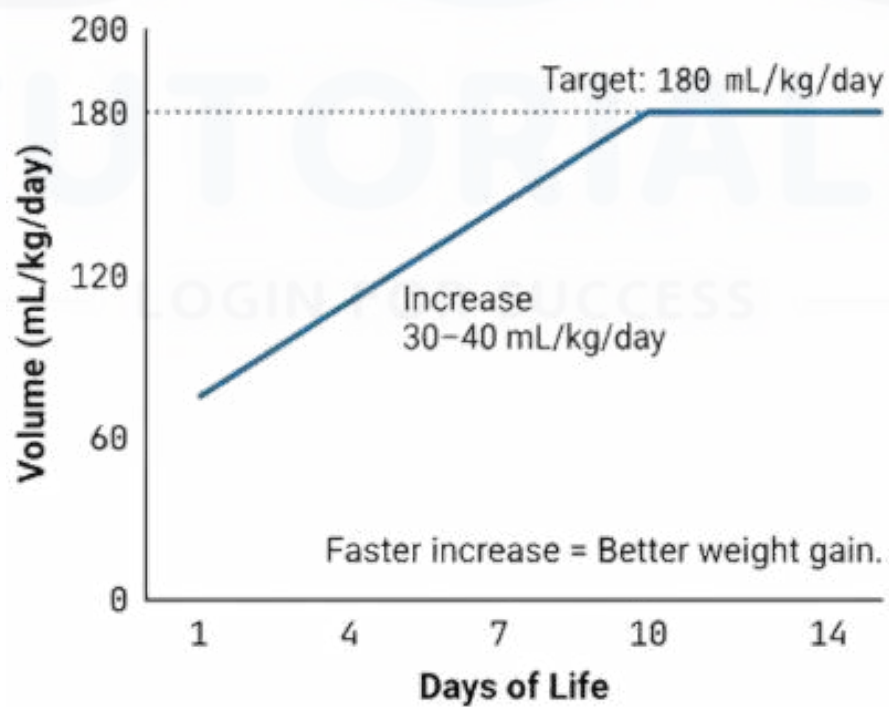


## Milk Choices & Volume Protocol

### Choice Hierarchy Pyramid



### Volume Increase Graph



## Notes:

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