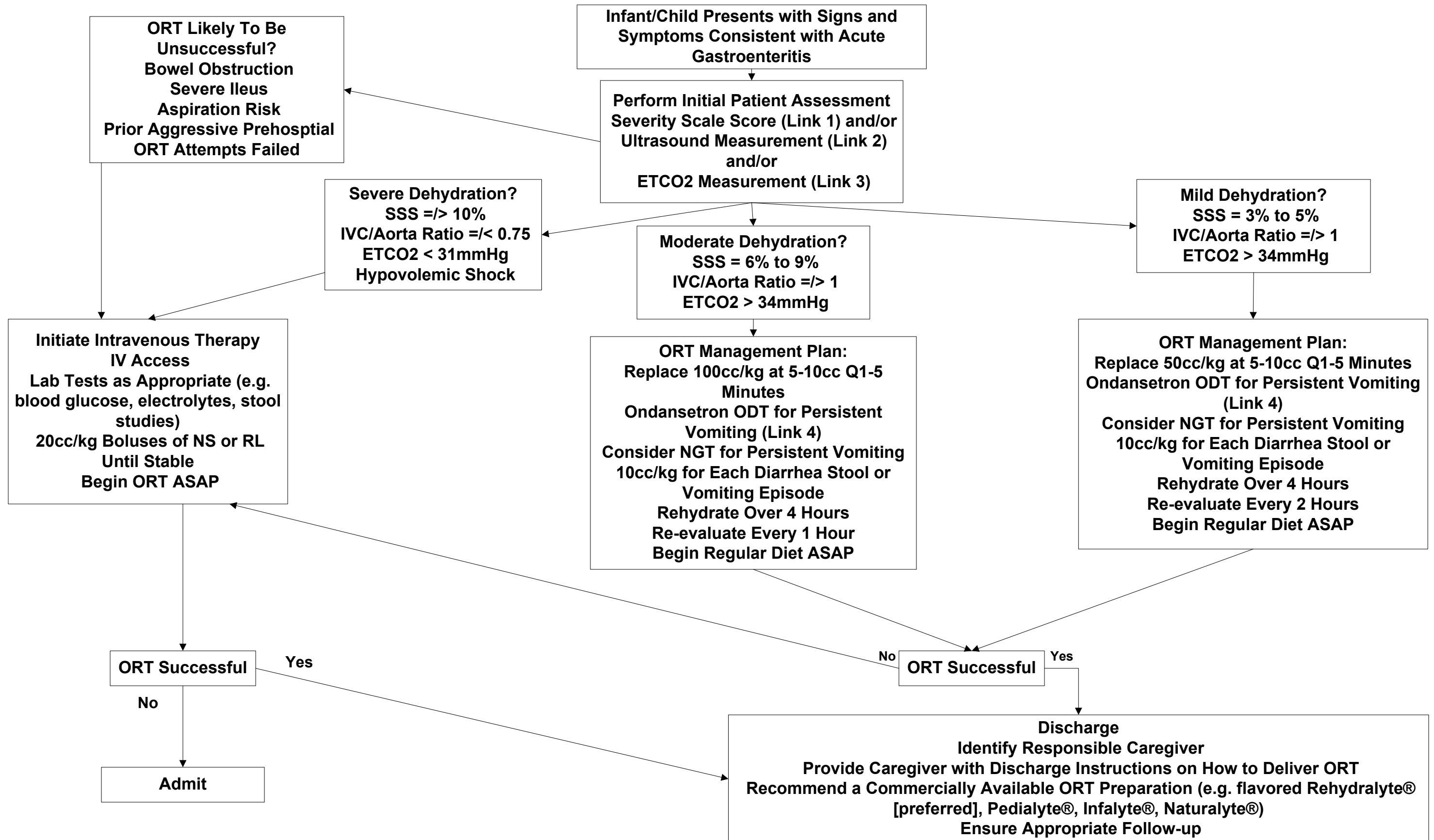


# Pediatric Rehydration Therapy for Acute Gastroenteritis



This guideline was ratified by the emergency department faculty at Maine Medical Center in February 2010. It reflects our expert opinion and is not necessarily applicable to all institutions. It is intended to be a reference for clinicians caring for patients and is not intended to replace providers' clinical judgment.  
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**Link 1: Dehydration Severity Scales****A. Traditional Scale**

	<b>Mild (3-5%)</b>	<b>Moderate (6-9%)</b>	<b>Severe (≥10%)</b>
■General	Alert	Restless/Irritable	Lethargic/unconscious
■Blood Pressure	Normal	Normal/Decreased	Decreased
■Quality of Pulse	Normal	Normal/Decreased	Weak/Thready
■Heart Rate	Normal	Slightly Increased	Tachycardia
■Skin Turgor	Normal	Decreased	Markedly Decreased
■Fontanelle	Normal	Depressed	Sunken
■Mucus Membranes	Slightly dry	Dry	Parched
■Eyes	Normal	Mildly Sunken	Deeply Sunken
■Extremities	Warm/NI Cap Refill	Delayed Cap Refill	Cool/Mottled
■Urine Output	Slightly Decreased	< 1 ml/kg/hr	<< 1 ml/kg/hr
■Thirst	Slightly Increased	Moderately Increased	Increased/Decreased

**B. Simplified Scale**

Score	<b>0</b>	<b>1</b>	<b>2</b>
General Appearance	Normal	Thirsty, restless or lethargic, but irritable	Drowsy, limp, cold
Eyes	Normal	Slightly sunken	Very sunken
Mucous Membranes	Moist	“Sticky”	Dry
Tears	Normal	Decreased	Absent

Consider a score of  $\geq 1$  to indicate dehydration

Higher scores = more severe the dehydration

Target a score of 0 for safe discharge

J Pediatrics 2004;145:201-207

**C. If a Recent and Accurate Pre-morbid Weight is Known**

$$\% \text{ Dehydration} = [1 - (\text{Present Weight}/\text{Normal Weight})] \times 100$$

**Example:**

Normal Weight = 10-kg

ED Weight = 9-kg

$[1 - (9/10)] \times 100 = 10\%$  Dehydration

Fluid Deficit = Normal Weight in kg's x % dehydration

10-kg x 10% = 1-kg Deficit

1-kg Deficit = 1 Liter Deficit

Target Rehydration Goal: 100cc/kg Replacement

**Link 2: Bedside Ultrasound Dehydration Measurement**

The Diameter of the Inferior Vena Cave (IVC) and Aorta (A) are Measured  
The IVC/A Ratio is Calculated  
IVC/A Ratio of  $\leq 0.75$  Indicates Significant Dehydration  
IVC/A Ratio of  $\geq 1$  Indicates Normal Hydration  
The IVC/A Ratio Can be Monitored to Ensure Successful Rehydration

Acad Emerg Med 2007;14:841-845.

**Link 3: End Tidal Carbon Dioxide Dehydration Measurement**

An ETCO<sub>2</sub> of  $< 31$ mmHg = a serum bicarbonate concentration of  $\leq 15$  mmol/L  
An ETCO<sub>2</sub> of  $> 34$ mmHg = a serum bicarbonate concentration of  $> 15$  mmol/L

Pediatrics 2006;118:260-267.

**Link 4: Ondansetron Oral Dissolving Tablet (ODT) Dosing for Pediatric Emesis**

Prescribe 4mg Tablets  
Weight 8-15 kg: One-half Tablet  
Weight 15-30 kg: One Tablet  
Weight  $> 30$  kg: Up to Two Tablets  
Retain on Tongue for 5 Seconds Prior to Swallowing  
If Child Vomits within 15 Minutes, Repeat Dose

NEJM 2006;354(16):1698-1705.