



Group B Strep (GBS), also referred to as *Streptococcus agalactiae* is one of the **most common causes of sepsis in neonates**. This can present as **early onset disease (EOD)** and **late onset disease (LOD)**, both must be promptly identified and managed appropriately.

PRESENTATION	
Early Onset (EOD) <ul style="list-style-type: none"> Birth-7 days of life More likely to present as sepsis 	Late Onset (LOD) <ul style="list-style-type: none"> >7 days-3 months More likely to present as meningitis
Common Symptoms <ul style="list-style-type: none"> Fever ($\geq 38^{\circ}\text{C}$) OR temperature instability Tachycardia Grunting Apnea Tachypnea Encephalopathy Lethargy Cyanosis Irritability Poor feeding Vomiting 	

PATHOPHYSIOLOGY	
Early Onset (EOD) <ul style="list-style-type: none"> Vertical transmission 	Late Onset (LOD) <ul style="list-style-type: none"> Horizontal transmission
Group B strep is a naturally occurring bacterium that colonizes the gut, vaginal, and rectal tracts. Most carriers are asymptomatic. 20-30% of pregnant women are colonized by GBS.	

DIAGNOSIS	
Isolation of GBS from a normally sterile site (e.g., blood, CSF, urine) establishes the diagnosis. GBS antigen in CSF may provide supportive evidence.	
INVESTIGATIONS <ul style="list-style-type: none"> Blood culture Lumbar puncture CXR CBC+diff Urinalysis and urine culture 	Mom does not have to be a known colonizer of GBS for a neonate to develop EOD or LOD

RISK FACTORS	
EOD	<ul style="list-style-type: none"> Preterm labor Prolonged ROM >18 hours Intra-amniotic infection Previous birth with GBS Maternal intrapartum fever Very low birth weight GBS bacteriuria during pregnancy
LOD	<ul style="list-style-type: none"> Preterm birth
BOTH	<ul style="list-style-type: none"> Maternal GBS colonization
EOD RISK CALCULATOR neonatalesepsiscalculator.kaiserpermanente.org	

Any neonate with signs of sepsis in the first 24–48 hours, especially respiratory distress, could have early-onset GBS!!!

PREVENTION	MONITORING
<ul style="list-style-type: none"> ALL pregnant women are screened for GBS between 36-37 weeks gestation Intrapartum antibiotic prophylaxis (IAP) — maternal penicillin, should be given ≥ 4 hours before birth. <ul style="list-style-type: none"> Reduces the risk of EOD Does not eliminate risk completely Does not prevent LOD 	<ul style="list-style-type: none"> If mother is GBS positive, monitor newborn for sepsis in first 48 hours regardless of IAP status In multiple births, if one neonate has GBS infection → monitor other infants Even if mom is GBS-negative, there's a 1–2% chance of EOD.

SUPPORTIVE MANAGEMENT	EMPIRIC TREATMENT OF SEPSIS / MENINGITIS	TARGETED TREATMENT OF CONFIRMED GBS
Fluids, Electrolytes, Oxygen, Respiratory support	<ul style="list-style-type: none"> >7 days age: ampicillin + aminoglycoside 8-28 days age: ampicillin + cefotaxime 29-90 days age: ceftriaxone <i>Consider need for additional empiric coverage of meningitis: vancomycin +/- acyclovir</i>	<ul style="list-style-type: none"> Penicillin G is the drug of choice for definitive treatment of GBS! 10-day duration for bacteremia 14-day duration for uncomplicated meningitis