DISCLOSURES

The PLAT Protocol has been adapted from the original protocol created by the March of Dimes.
We have no relevant financial relationship(s) to disclose.

OBJECTIVES

- Define preterm labor and preterm delivery
- Discuss the risk factors for preterm delivery
- Discuss appropriate interventions for patients in preterm labor
- Discuss the goals and purpose of the PLAT protocol
- Introduce the PLAT protocol
- Discuss recent pilot study performed at Prisma Health Richland
Preterm Labor

Per ACOG, "... Regular uterine contractions accompanied by change in cervical dilation, effacement, OR Both

OR Initial presentation with regular contractions and cervical dilation of at least 2 cm."

Preterm Delivery:

Delivery between 20 0/7 weeks gestation and 36 6/7 weeks gestation.
PRETERM BIRTH STATISTICS

- In the United States, approximately 10 -- 12% of all live births occur preterm
- Leading cause of neonatal mortality
- Most common reason for antenatal admission

Preterm Birth accounts for:
- 70% of neonatal deaths
- 36% of infant deaths
- 25-50% of cases of long-term neurologic impairment in children

- A study in 2006
  - Institute of Medicine
  - estimated the annual cost of preterm birth in the United States to be $26.2 billion
  - or greater than $51,000 per each premature infant
  - Less than 10% of women with the clinical diagnosis of preterm labor actually give birth within 7 days of presentation.

RISK FACTORS

**History of prior preterm delivery (PTD)

Short cervical length measured on transvaginal ultrasound (TVUS)

History of cervical surgery/procedures

History of uterine instrumentation (e.g., D&C)
  - Noted to be a risk factor in some, but not all studies

Uterine anomalies
RISK FACTORS DURING CURRENT PREGNANCY

- UTI
- Vaginal bleeding
- Genital tract infections (e.g., bacterial vaginosis, chlamydia)
- Poor dentition or gum disease
- Twin or high order pregnancy
- Conception via assisted reproductive technologies
- Increased uterine volume (e.g., polyhydramnios or multiple gestation)

ACOG PB 130: "Prediction and Prevention of Preterm Birth.

BEHAVIORAL RISK FACTORS

- Low maternal prepregnancy weight (BMI < 19.8)
- Substance abuse
- Short interpregnancy interval
- Tobacco use

ACOG PB 130: "Prediction and Prevention of Preterm Birth.

SCREENING MODALITIES: CERVICAL LENGTH (CL)

- Measured via transvaginal ultrasound (TVUS)
- Can be used as a screening tool in women who have had prior preterm births
- Performed in women presenting with signs/symptoms of PTL between 20 0/7 and 28 6/7 weeks gestation.
- \( CL \leq 20 \text{ mm} = \text{increased risk of preterm delivery} \)
- \( CL \geq 25 \text{ mm} = \text{decreased risk of preterm delivery} \)

ACOG PB 130: "Prediction and Prevention of Preterm Birth."
PRETERM LABOR ASSESSMENT TOOLKIT

SCREENING MODALITIES: FETAL FIBRONECTIN (FFN)

Presence of fFN in cervicovaginal fluid is associated with preterm delivery.

Fetal Fibronectin Testing:
Performed between 24 0/7 to 34 6/7 weeks gestation
Predicts risk of patient entering PTL within the next 7 to 14 days
Great negative predictive value; Poor positive predictive value

PRETERM LABOR ASSESSMENT TOOLKIT

PRETERM LABOR INTERVENTIONS: NEONATAL CORTICOSTEROIDS

**Most beneficial intervention** for improvement of neonatal outcomes

Promotes maturation over growth of the developing fetus

Reduces the risk for:
- Neonatal death
- Respiratory distress syndrome
- Intraventricular hemorrhage
- Patent ductus arteriosus
- Necrotizing enterocolitis

Specifically in the lungs, promotes surfactant synthesis, increases lung compliance, reduces vascular permeability, and improves postnatal surfactant response.

ACOG PB 171: “Management of Preterm Labor.”


PRETERM LABOR ASSESSMENT TOOLKIT

PRETERM LABOR INTERVENTIONS: MAGNESIUM SULFATE

Given for fetal neuroprotection

Administered when birth is anticipated before 32 weeks gestation.

- Reduces the risk and severity of cerebral palsy when given with neuroprotective intent

At PHR, given as a 4g or 6g bolus, followed by a 2g/hr x 12 hours

ACOG PB 171: “Management of Preterm Labor.”

PRETERM LABOR ASSESSMENT TOOLKIT

PRETERM LABOR INTERVENTIONS: TOCOLYTICS

Maintenance therapy with tocolytics is ineffective for preventing preterm birth and improving neonatal outcomes and is not recommended

Can be considered to prolong pregnancy for short term
- to enable the administration of antenatal corticosteroids
- magnesium for neuroprotection
- transport

Should not be used longer for than 48-72 hours.

ACOG PB 171: “Management of Preterm Labor.”
PRETERM LABOR ASSESSMENT TOOLKIT

PRETERM LABOR INTERVENTIONS: ANTIBIOTICS

GBS prophylaxis until GBS results
No evidence for further antibiotics to prolong pregnancy unless rupture of membranes is diagnosed
Stop antibiotics for GBS if labor symptoms resolve

ACOG PB 199: “Use of Prophylactic Antibiotics in Labor and Delivery.”

AND NOW FOR THE PLAT PROTOCOL....

BACKGROUND ON THE PROTOCOL

• The PLAT Protocol has been adapted from the original protocol created by the March of Dimes
• Quality improvement project
• Include evidence based interventions
• Prisma Health Richland Hospital is the perinatal referral center
### GOALS OF THE PLAT PROTOCOL

- Allow for timely interventions of those patients in preterm labor
- Maintain maternal-fetal safety
- Hospitalize only those women at the greatest risk for preterm delivery
- Allow for effective and timely management to improve neonatal outcomes
- Avoid unnecessary treatment, interventions, and medication
- Decrease the burden to the health care system related to unnecessary interventions

### PURPOSE OF THE PLAT PROTOCOL

To provide guidance and direction for the identification, assessment, and disposition of patients presenting with symptoms of preterm labor within 2 to 4 hours.

- Protocol not available for handouts prior to publishing by Dr. Inabinet.
QUESTIONS?

THANK YOU!

Please feel free to e-mail us with your comments or concerns:

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