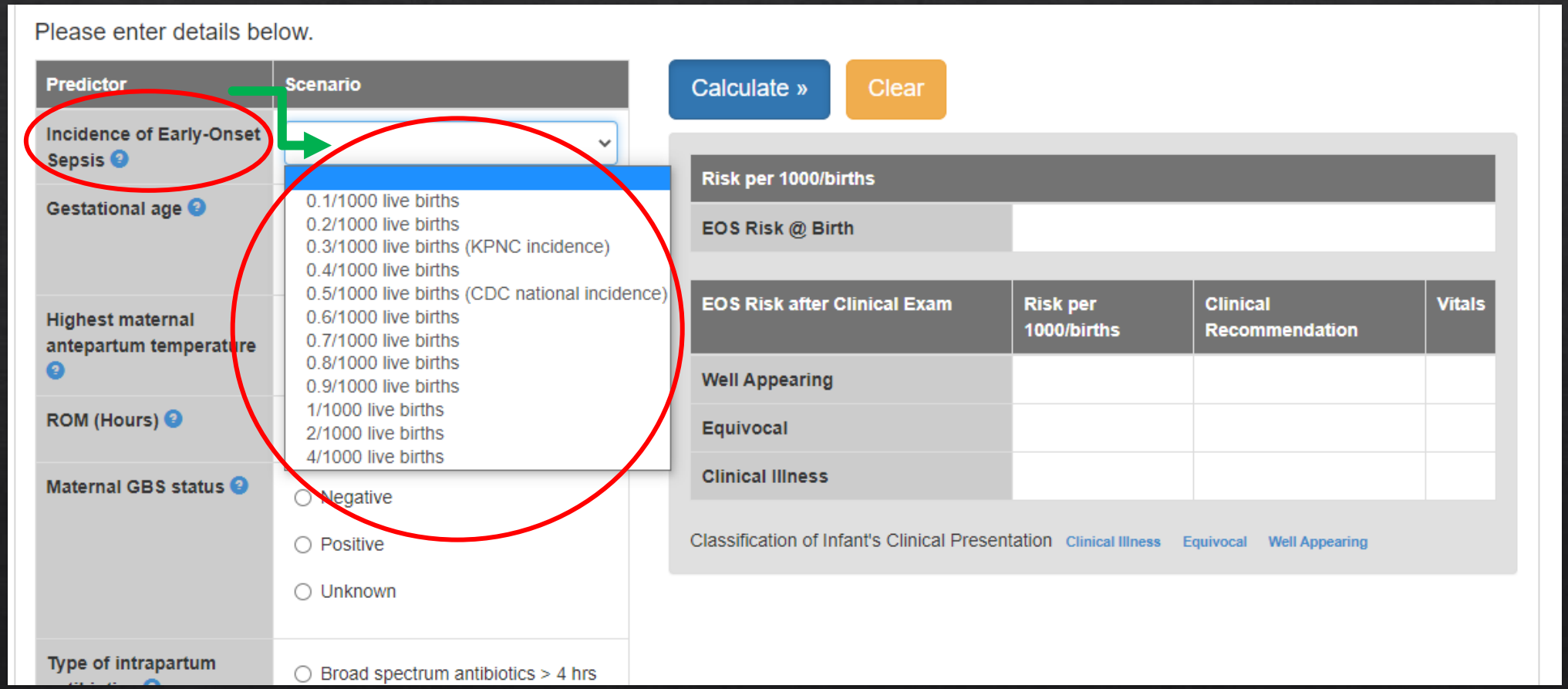
Local Rates of Early Onset Sepsis

Why it may be important to know your own incidence

Why are there different rates and what do we choose?



EXAMPLES

Predictor	Scenario
Incidence of Early-Onset Sepsis	0.3/1000 live births (KPNC incider
Gestational age	39 weeks 0 days
Highest maternal antepartum temperature	38.3 Celsius
ROM (Hours)	18
Maternal GBS status	(•) Negative ( ) Positive ( ) Unknown
Type of intrapartum antibiotics	( ) Broad spectrum antibiotics > 4 hrs prior to birth ( ) Broad spectrum antibiotics 2-3.9 hrs prior to birth ( ) GBS specific antibiotics > 2 hrs prior to birth (•) No antibiotics or any antibiotics < 2 hrs prior to birth

Calculate » Clear

Risk per 1000/births	
EOS Risk @ Birth	0.81

EOS Risk after Clinical Exam	Risk per 1000/births	Clinical Recommendation	Vitals
Well Appearing	0.33	No culture, no antibiotics	Routine Vitals
Equivocal	4.02	Empiric antibiotics	Vitals per NICU
Clinical Illness	16.84	Empiric antibiotics	Vitals per NICU

Classification of Infant's Clinical Presentation Clinical Illness Equivocal Well Appearing

EXAMPLES

Predictor	Scenario
Incidence of Early-Onset Sepsis	0.5/1000 live births (CDC national
Gestational age	39 weeks 0 days
Highest maternal antepartum temperature	38.3 Celsius
ROM (Hours)	18
Maternal GBS status	◉ Negative ○ Positive ○ Unknown
Type of intrapartum antibiotics	○ Broad spectrum antibiotics > 4 hrs prior to birth ○ Broad spectrum antibiotics 2-3.9 hrs prior to birth ○ GBS specific antibiotics > 2 hrs prior to birth ◉ No antibiotics or any antibiotics < 2 hrs prior to birth

Calculate » Clear

Risk per 1000/births	
EOS Risk @ Birth	1.35

EOS Risk after Clinical Exam	Risk per 1000/births	Clinical Recommendation	Vitals
Well Appearing	0.55	No culture, no antibiotics	Vitals every 4 hours for 24 hours
Equivocal	6.70	Empiric antibiotics	Vitals per NICU
Clinical Illness	27.81	Empiric antibiotics	Vitals per NICU

Classification of Infant's Clinical Presentation Clinical Illness Equivocal Well Appearing

EXAMPLES

Predictor	Scenario
Incidence of Early-Onset Sepsis	4/1000 live births
Gestational age	39 weeks, 0 days
Highest maternal antepartum temperature	38.3 Celsius
ROM (Hours)	18
Maternal GBS status	(•) Negative ( ) Positive ( ) Unknown
Type of intrapartum antibiotics	( ) Broad spectrum antibiotics > 4 hrs prior to birth ( ) Broad spectrum antibiotics 2-3.9 hrs prior to birth ( ) GBS specific antibiotics > 2 hrs prior to birth (•) No antibiotics or any antibiotics < 2 hrs prior to birth

Calculate » Clear

Risk per 1000/births	
EOS Risk @ Birth	11.02

EOS Risk after Clinical Exam	Risk per 1000/births	Clinical Recommendation	Vitals
Well Appearing	4.55	Empiric antibiotics	Vitals per NICU
Equivocal	52.78	Empiric antibiotics	Vitals per NICU
Clinical Illness	191.09	Empiric antibiotics	Vitals per NICU

Classification of Infant's Clinical Presentation Clinical Illness Equivocal Well Appearing

Is your institution different?

- Local populations may have greater or lesser risk of early onset sepsis
  - Disparities in healthcare may accentuate these differences
    - Impact of education levels
    - Role of differing socio-economic levels
    - Access to health care
    - Culture differences regarding when to seek medical attention
    - High risk pregnancies
- Local institutions know the patient populations they serve
- One size fits all incidence may not be right for your practice!

MDPQC Recommendations

- If you can, determine your local (institutional) rate of early onset sepsis
  - You can calculate your institutional incidence by:

    # cases early onset sepsis in the observation period / Total # of lives births in the observation period x 1000

    - Include all infants ≥35 weeks gestational age
    - Include all infants from 0-72 hours from birth
    - Use multiple years of historical data to correct for yearly variability
      - May require multiple years of data to increase the sample size (3-5 years of data or more may be needed)
      - The more the better

MDPQC Recommendations

MDPQC recommends selecting the CDC National incidence of 0.5/1000

if:

1) you do not know your institutional incidence
2) your service does not lend itself to easily calculating your incidence
3) you have an EMR that does not allow you to change the incidence
    - most will default to CDC incidence

Questions?