DISCLOSURES

1. No affiliation with any research or product sales
2. No particular expertise in Perinatalogy or Cardiology
3. Lack expertise in the fine art of saying “NO”
4,000,000 births each year in the United States
Overview:
At the end of the talk you will be able to answer the following

- What constitutes a High Risk Pregnancy?
- How are High Risk Pregnancies managed?
- What services are available for High Risk Pregnancies in Whatcom County?
- What are the Levels of Maternal Care?
- How does St. Joseph Medical Center fit into the regional system of maternal care?
Which is the most common diagnosis in high risk pregnancies?

- A. Gestational hypertension
- B. Twins
- C. Age 40+
- D. Placenta previa
- E. Chromosome abnormalities
- F. Gestational diabetes
- G. Cervix shortening
- H. Breech presentation
High Risk Obstetrics?
What constitutes a High Risk Pregnancy?

National Institute of Health
Eunice Kennedy Shriver National Institute of Child Health and Human Development

PRE-EXISTING CONDITIONS
AGE
LIFE STYLE
CONDITIONS SPECIFIC TO PREGNANCY
PRE-EXISTING

- HTN
- Diabetes
- Kidney Disease
- Autoimmune Diseases
- Thyroid Diseases
- Infertility
- Obesity

AGE

- Teen pregnancy less than 17
- Primigravidas over 35
LIFESTYLE

- Alcohol
- Smoking

PREGNANCY SPECIFIC CONDITIONS

- Multiple Gestation
- Gestational Diabetes
- Gestational Hypertension / Preeclampsia
How many women are we talking about?

- Gestational HTN: 6-8% (70% are primigravidas)
- Preeclampsia: 3-5%
- Twins: 3-4% (highest for women > 35)
- Gestational diabetes: 2-10%
- “S” AMA (age 40+): 1%

Remember 4 million births/yr
Conditions not specifically included in the NIH summary:

- Placental Complications
- Fetal Issues / Birth Defects
- Prior Uterine Surgery
- Cardiovascular/ Pulmonary/ Neurologic Disease
- Significant Socioeconomic Issues
- Significant Mental Illness
Every year, Stanley would re-enact his birth to the horror of anyone present.
Leading causes of Maternal Mortality:
chronic conditions and obstetrical complications

1998-2005 → 14.5 maternal deaths/ 100,000 live births
2006-2010 → 16 maternal deaths/ 100,000 live births

hemorrhage, gHTN, PE, anesthesia related deaths decreased
chronic medical condition related deaths increased
(especially cardiac and infection)

Maternal Severe Morbidity
Near-miss Mortality

Not infrequent: 52,000 women/ yr in United States

&

Increasing (1998-2009): 75% increase morbidity peripartum
114% increase morbidity postpartum

- Possibly due to national increased rates of
  - HTN
  - DM
  - Obesity
  - C-Sections

Cardiomyopathy
Chronic cardiac disease

Make up a substantial proportion of morbidity in the postpartum time frame
Preventing High Risk Pregnancies

- 400 mcg folic acid daily starting before conception
- Vaccinations
- Maintain a healthy weight
- Avoid smoking, alcohol, drug use
- Start prenatal care early and have regular visits
Managing High Risk Pregnancies

- Prepregnancy consultation or at least early prenatal care
- Accurate and timely diagnosis
- Appropriate use of diagnostic evaluations such as fetal/obstetrical ultrasound
- Antenatal testing such as non-stress test and biophysical profile
- Experienced office and clinical staff
- Multidisciplinary approach
- Consultation and co-management with other specialties
- Consultation and co-management with MFM/ neonatology
“Right now the baby is not in the proper position for delivery, but I’m confident it will shift in time for your due date.”
Who are the Players?

- Licensed /Certified Midwives
- Certified Nurse Midwives
- Family Physicians (some have one year fellowship in obstetrics)
- Obstetricians
- Perinatalists (OB/GYN with 3 year fellowship in maternal fetal medicine)
  - Specialists in the “un-routine”
What services are available for High Risk Patients in Whatcom County?

- Board Certified Obstetricians for Inpatient and Outpatient Care
  PHMG and BOGA

- Obstetrical Hospitalists for Inpatient Care

- Board Certified Pediatricians for Outpatient and Inpatient Care
  PHMG

- No Perinatalogists or Neonatalogists in outpatient or inpatient setting
Why Differentiate?

- High risk pregnancies, providers, and facilities from
- Low risk pregnancies, providers, and facilities
Stratified care into 3 levels

Subsequent studies showed that mortality for very low birth weight infants was 38% if born outside a level III hospital (compared to 23% at a level III facility)

Even if a level II hospital had a neonatologist the mortality was higher than in level III
Where are the majority of US babies born?

- 39%
  - Hospitals delivering < 500/ yr

- 20%
  - Hospitals delivering 500-1000/ yr
How many babies are born at St. Joseph Hospital each year?

A. 500  
B. 1000  
C. 2000  
D. 5000
St. Joes Hospital

Estimated 2000 babies this year
Obstetric Care Consensus

- A call to consider the maternal-fetal pair in regionalizing care
- Improve neonatal mortality and maternal outcomes
- Do hospitals with higher volume and more expertise have lower rates of fetal/maternal mortality and morbidity?
- Once accurate data is collected we can begin to study interventions
Levels of Maternal Care

Obstetrical Care Consensus
February 2015
American College of Obstetricians and Gynecologists
Society for Maternal-Fetal Medicine
Goal: regionalize care for high risk patients to reduce maternal morbidity and mortality

- Uniform designations for levels of care
- Standardize definitions and nomenclature
- Provide consistent guidelines
- Develop equitable geographical distribution of maternal care facilities
BIRTH CENTER

Low risk
Uncomplicated
Singleton
Vertex

Anticipate uncomplicated delivery

- LM, CPM, CM
- Each birth must have two professionals in attendance
- Medical consult available
- Able to stabilize and transfer
- Protocol with hospital for coordinating care and transfer of patients who exceed the capability of the birth center
LEVEL I: Basic Care

- FM, CNM, OB
- Provider with C-sec privileges available for unscheduled C-sec
- Anesthesia available
- Labor/delivery RNs providing continuous care
- U/S, lab, blood bank capability
- Existing protocol for managing unexpected complications
- Formal relationship with higher level facilities for consult and transfer

Uncomplicated pregnancies
Term twins
VBAC
Uncomplicated cesareans
Mild preeclampsia at term
LEVEL II: Specialty Care

Complicated pregnancy
Severe preeclampsia
Placenta previa w/o prior csec
Obesity

- CNM, FM, OB
- OB/GYN in-house
- Anesthesia in-house
- Medical/surgical consultants available for in-patient care
- MFM available for consult by phone
- Labor/delivery RNs providing continuous care
- CT, MRI, U/S, lab, blood bank
LEVEL III: Subspecialty Care

Complex Maternal-Fetal Medical Conditions and Complications

- Immediately available advanced imaging
- ICU to accept pregnant patients w/ in-house intensivists
- Labor RNs continuous care
- OB/GYN in-house, available immediately
- Anesthesia in-house, available immediately
- MFM available
- Board certified MFM director of services
- Full subspecialty in-house consult available

Placenta previa w/ prior surgery
- Accreta/ percreta

ARDS

Expectant management of severe Preeclampsia < 34 wk
LEVEL IV: Regional Perinatal Care Center

Critical Care OB

- Severe cardiac conditions
- Severe pulmonary HTN
- Liver failure
- Neuro, cardiac, transplant surgery for pregnant women

- On-site ICU for OB patients
- On-site medical/ surgical care for complex and critical care OB patients
- MFM care team with immediately available in-house provider
- Anesthesia in-house immediately available with expertise in critical care OB
- Medical/ surgical specialists and subspecialists on-site and immediately available
St. Joseph Medical Center
Where would we fit?

► LEVEL II: Specialty Care
Meet all criteria

► LEVEL III: Subspecialty Care
HAVE--
ICU with in-house intensivist
Able to ventilate and stabilize patient in L and D to transfer to ICU
Anesthesiologist and OB in-house immediately available

DON’T HAVE--
MFM with inpatient privileges
Full compliment of subspecialists available
Don’t knowingly manage accrete/percreta, severe preeclampsia expectantly <34 wk
TRIAGE (the ED for women in the second half of pregnancy)

Level 1 Emergent

- Potential life threatening conditions
- Immediate care

Bleeding, Pushing, Preterm labor, VBAC, Twins, PPROM, Prolapsed cord, Failed out-of-hospital birth, Seizure, Cardiac/ respiratory emergency, Diabetic ketoacidosis, No FM, ED transfer, Acute injury, Patient reported “something not right”

Level 2 Urgent

- Potential to progress to life threatening event
- Care within 15 minutes

HTN screening, BP monitoring, Decreased FM, Severe dehydration, Flu-like symptoms, PTL symptoms