

# Induction of Labour

The slippery slope

NOT all women should be routinely offered elective induction of labour at term.

# Just say “No”

- Risks
- Resources
- Research
- Patient culture
- Professional Considerations

# Meet Holly



39+0 G1P0

Cervix: Long, firm, -2, post, fingertip

# First, Do No Harm

- Risks of IOL
  - Fetal
  - Maternal

# Risks: Fetal

- Iatrogenic prematurity
  - Intentional slope to “early term”, 38+6... 38+4...
- ↑NICU admission
  - NNH = 91 to 131 (Stock et al, 2012)
- Long term neurodevelopment
  - early term/unintended prem
  - IOL/augmentation and ASD (Gregory et al, 2013)

# Risks: Maternal

- AJOG study: ↑Severe maternal morbidity (Liu et al, 2013)
  - Canada (excl PQ), n=1.6 million, 2003-2010
  - IOL 38-39+: ↑PPH, ↑transfusion, ↑puerperal sepsis, ↑VTE
- ↑Cesarean section
  - Clearly ↑ in some populations (Cammu et al, 2002; Seyb et al, 1999; Vrouenraets et al, 2005; Prysak et al, 1998; Ehrental et al, 2010; Osmundson et al, 2011; etc...)
  - Surgical risks/recovery, Breastfeeding, Future pregnancy

# More IOL, More CS

- Obstetrics & Gynecology study (Vrouenraets et al, 2005)
  - 1389 Prospective primiparous patients, CS rates:
    - SOL 12%
    - Medically indicated IOL 23.4%
    - Elective IOL 23.8%
  - CS risk strongly associated with Bishop <5
  - IOL group: longer hospital stay, more NICU admissions, more maternal transfusions



# Dollars and Good Sense

- Delivery cost Canada 2006 (CIHI):
  - 2002-2003: \$821M pn/birth + \$361M newborns\*
  - 10% of inpatient hospital spending
  - NICU admission 2006: \$9700/infant
- Nova Scotia (Allen et al, 2005):
  - CS in labour \$2137, SVD \$1340, OVD \$1594, Elec CS \$1532
  - Average cost IOL \$1715, Average cost SOL \$1474
- Excess cost of IOL if (Kaufman et al, 2002):
  - Cx favourable and: vag 15%, CS 5%
  - Cx unfavourable and: vag 25%, CS: 15%
  - Approx \$910/patient (all comers, 2002 dollars)

\* Excludes PQ and rural Manitoba

**Which adds up:**

**\$2.04 to \$8.23 million dollars per  
year in the Atlantic provinces!**

**Seriously:**

**\$2.04 to \$8.23 million dollars per  
year in the Atlantic provinces  
alone!**





# In response

- Is that really what the research says?
- Patient considerations
- Professional considerations
- Research gaps
- Review of risks and costs

# Does the research really show that?

- Major limitations to research:
  - Retrospective
  - Meta-analyses/syst reviews & Heterogeneity
  - “Expectant” often a short delay of several days
  - Differences between induction/expectant groups management if induction undertaken
- Research question not related to today’s resolution

# In Response

- “Does induction of labour increase the risk of caesarean section? A systematic review and meta-analysis of trials in women with intact membranes” (Wood et al, BJOG 2013)
  - Heterogeneous trials
    - Overwhelmingly weighted towards post-dates inductions
  - ↓CS overall with IOL (OR 0.83, 0.76-0.92)
  - **No ↓CS with non-PD IOL**
- Authors recommend “...caution should be sounded before unreservedly accepting the conclusion that induction of labour reduces the risk of caesarean section.”



# In Response

- “Use of labour induction and risk of cesarean delivery: a systematic review and meta-analysis” (Mishanina et al, CMAJ 2014)
  - Heterogeneity:
    - Indication: most post dates/PROM
    - Timeline: 1975- 2012, Method
  - Maternal mortality underpowered (12%)
  - Overall ↓ CS with IOL (RR 0.88, CI 0.84-0.93)
    - Only with prostaglandin E2/misoprostol
  - Decrease in SB appears mainly due to post dates/medically indicated

# In Response

- “Outcomes of elective induction of labour compared with expectant management: population based study” (Stock et al, BMJ 2012)
  - Retrospective cohort
  - IOL @ 40+/52: ↓SB (NNT 1040-1257) but ↑NICU (NNH 91-131)
  - ↑CS with IOL 37-39 wk (1.02-1.04)
  - ↑uterine rupture (OR 1.7), shoulder dystocia (OR 1.28) with IOL
  - Major limitations
    - Elective IOL & Expectant patients different
    - Coding issues - ?Elective ?Medical indications

# Say what?

- For most women with post-dates pregnancy, and some other circumstances, IOL may reduce fetal death and even CS
- No compelling data that this can be generalized to all women who have reached term

# Research Gaps

- No robust answer yet
- Research after researcher agrees that practice should not be routinely altered yet:
  - “Until... rigorous trials are performed we think it is premature to conclude that induction does not affect the risk of caesarean section” (Wood et al, 2013)
  - “...further research into neonatal outcomes is required” (Stock et al, 2012)
  - “...there is not adequate evidence to support a routine recommendation of nonindicated induction of labor prior to 41 weeks' gestation” (Caughey, 2013)

# Research Gaps

- We need a randomized control trial of elective induction of labour at term vs expectant management with and without fetal surveillance

# Know your patients

- Current trend promoting natural childbirth culturally at odds with high-intervention for risk of harm and possible marginal benefit
  - IOL associated with negative birth experience (Waldenström, 2004)
- Don't alienate patients with
- If concerned, consider fetal surveillance, consider induction

# Professional Considerations

- SOGC
- ACOG
- RCOG
  
- CAM
- AWHONN





# In Summary

- Should women be accommodated if requesting elective IOL?
  - Maybe - but that's not the question today
- Should ALL women be ROUTINELY offered elective IOL at 37 or 39 weeks?
  - **No**

# No

- Potential fetal and/or maternal harm
- Millions of dollars without clear benefit
- The research does not clearly answer the question
- A large RCT is needed, and pending
- Patients don't want more interventions
- The experts advise against the resolution

# No

- Without the results of further randomized research, All women should NOT be routinely offered elective induction of labour at term.