Induction of labour and prolonged pregnancy

Hashem Yaseen
MBBS, MSc (O&G), JBOG, Arab.BOG, MRCOG

July / 2020

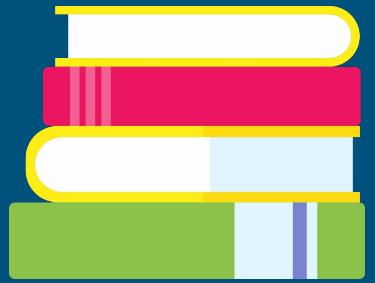
Obstetric and Gynecology Department

Objectives

For Fifth Year Students

At the end of this presentation you will be able to:

- describe the findings of vaginal examination and bishop score
- describe methods of management and complications of prolonged pregnancy
- describe indications and contraindications for induction of labour
- describe methods of induction of labour
- describe complications of induction of labour
- counsel women about induction of labour. OSCE

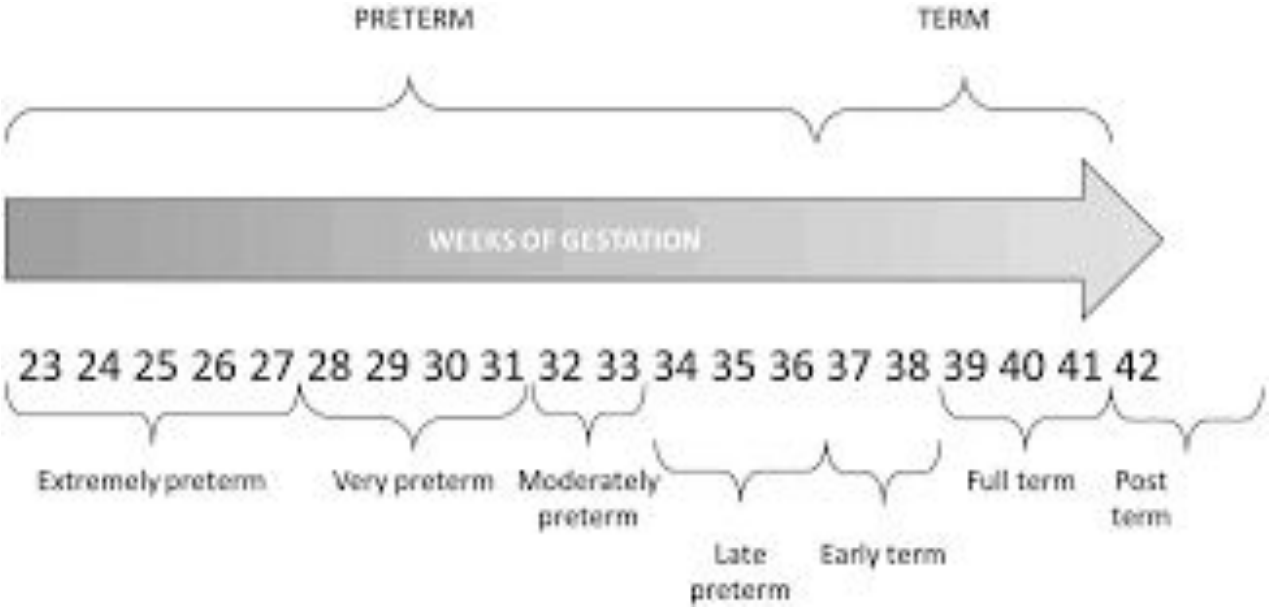


Before we start… A

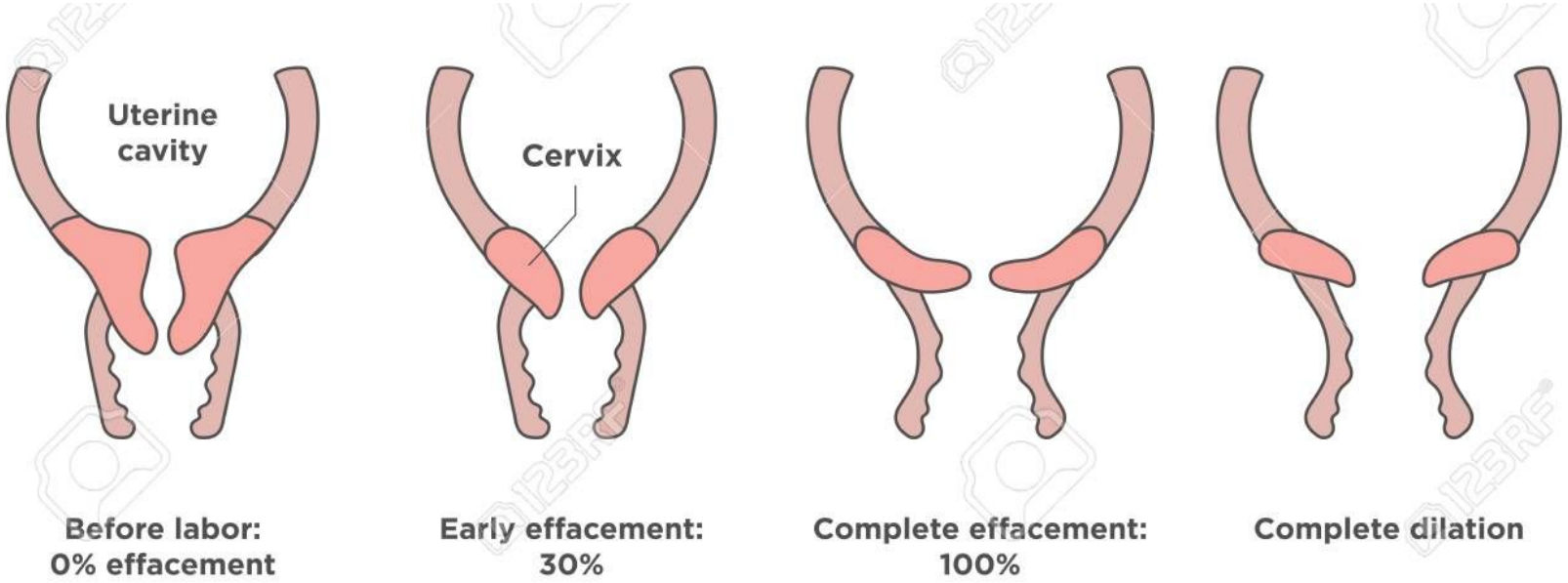
Spontaneous onset of labour

Augmentation of labour

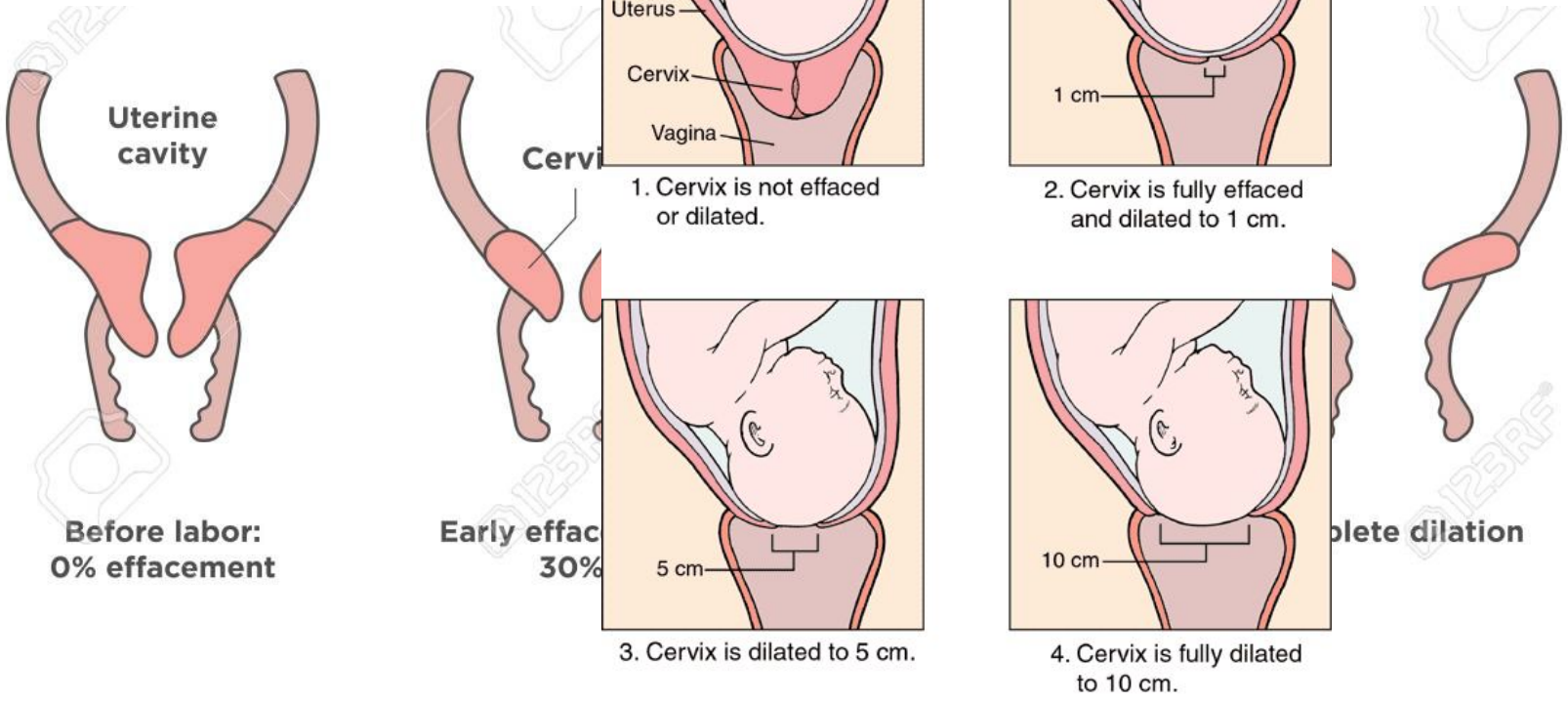
Induction of labour


PRETERM
TERM
WEEKS OF GESTATION
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42
Extremely preterm
Very preterm
Moderately preterm
Late preterm
Early term
Full term
Post term

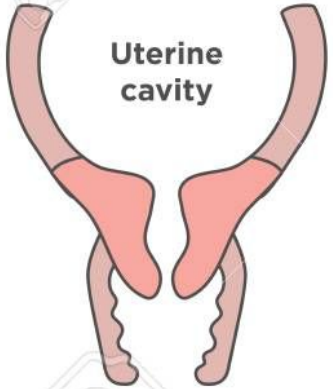
Before we start... B



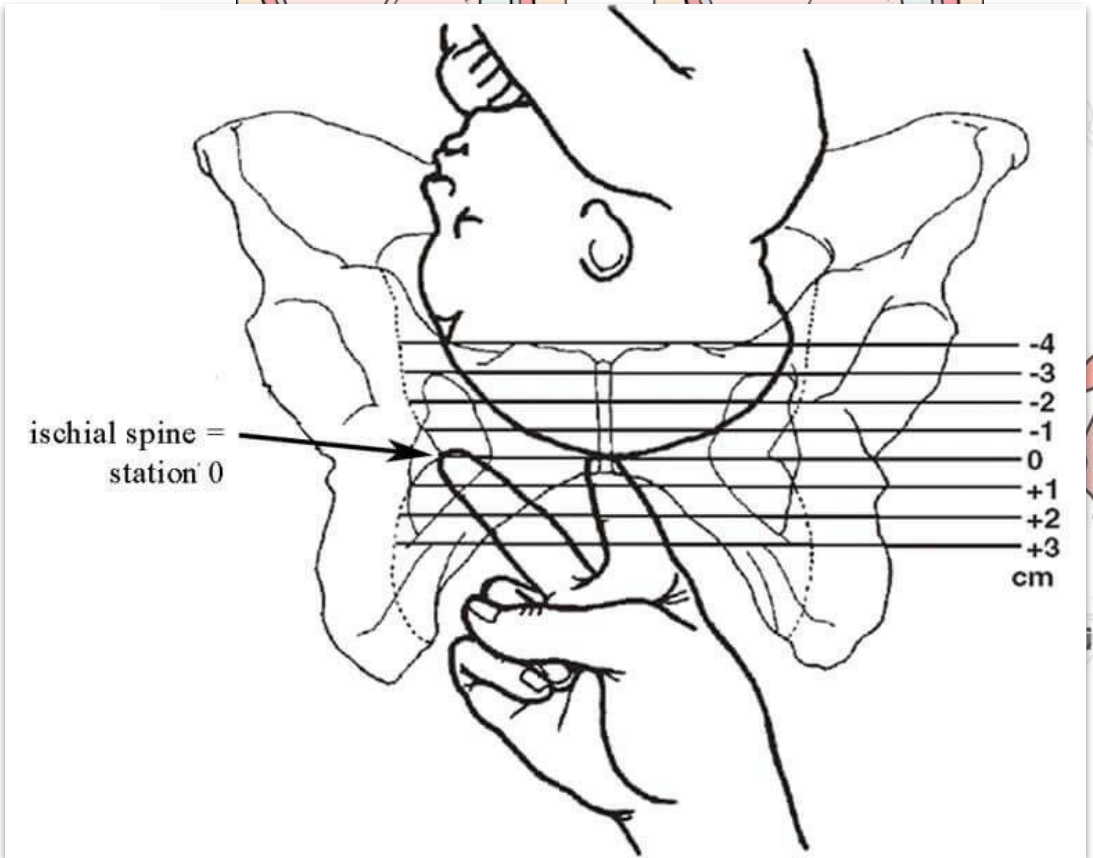
Before we start…

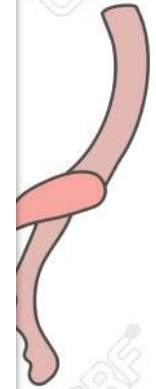


Before we start…



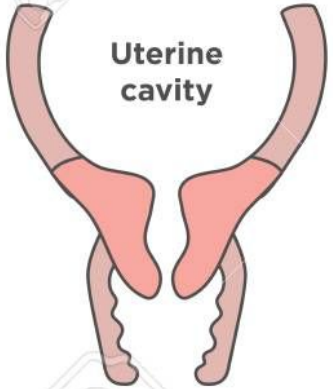
Before labor:
0% effacement



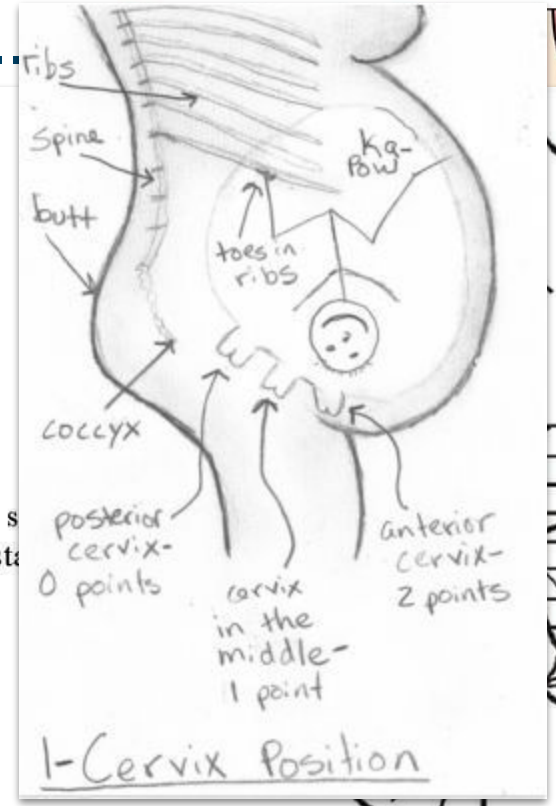


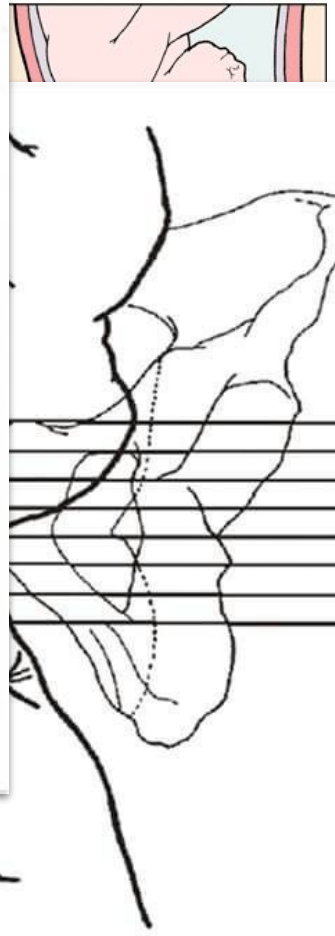
ilation

Before we start...



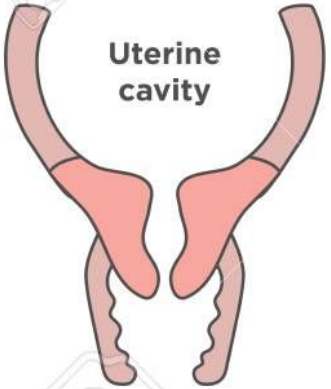
Before labor:
0% effacement



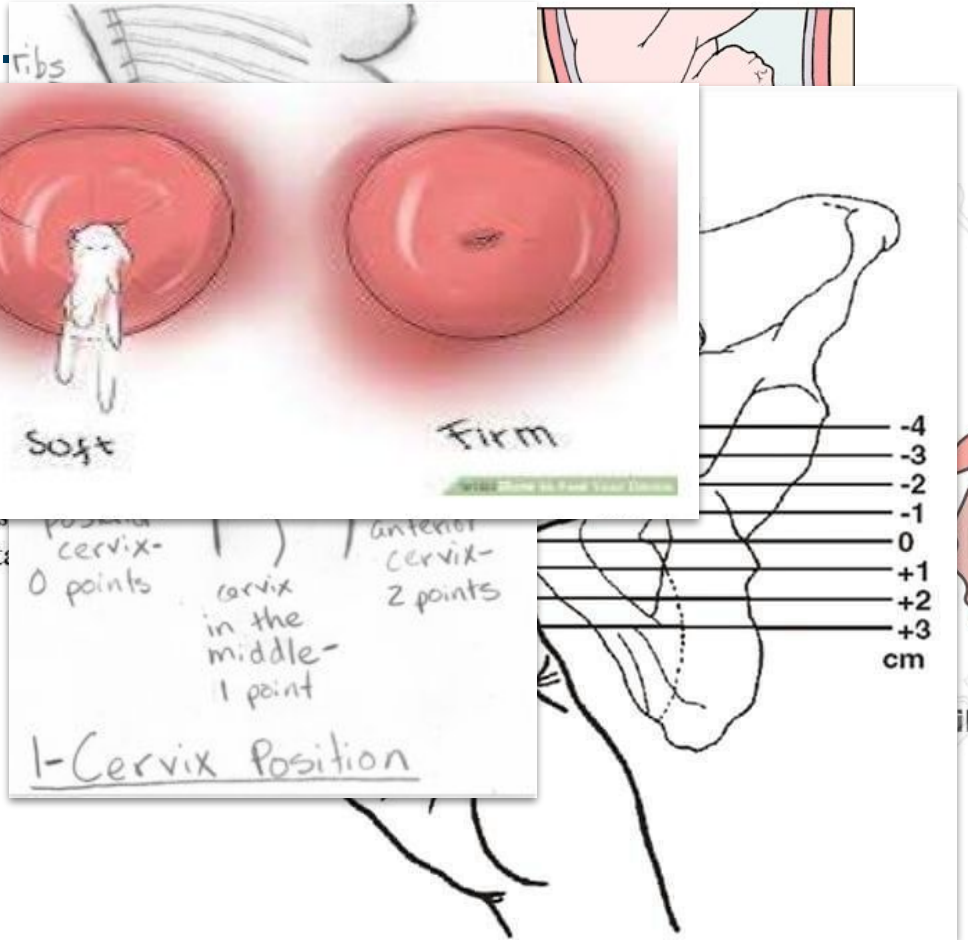


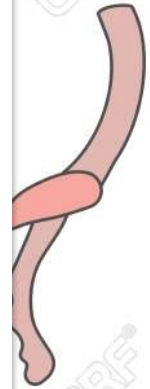
ilation

Before we start...



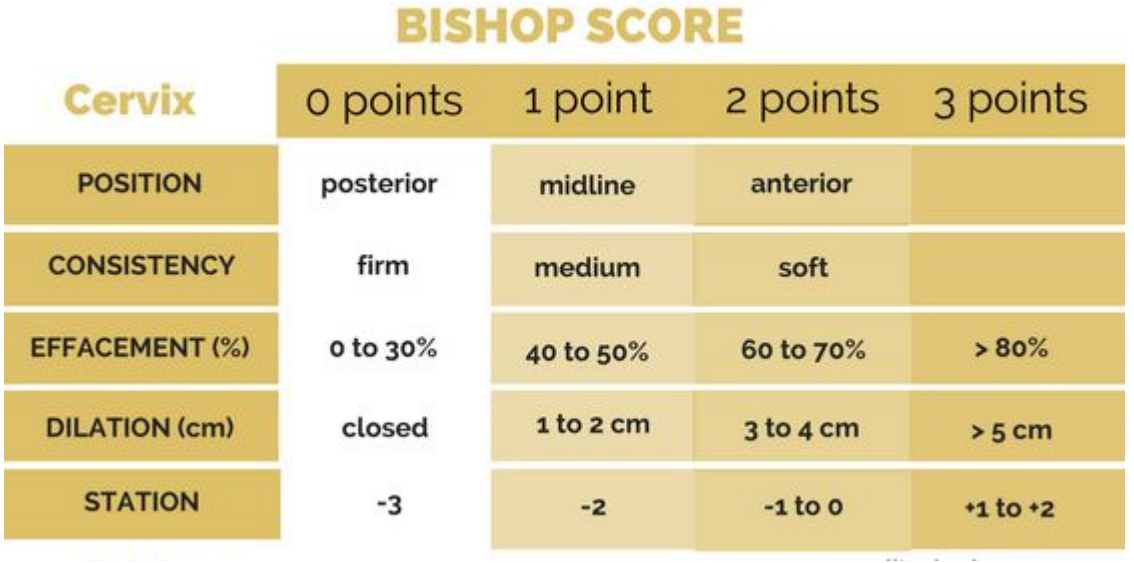
Before labor:
0% effacement





ilation

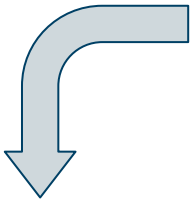
Before we start... C



BISHOP SCORE

Cervix	0 points	1 point	2 points	3 points
POSITION	posterior	midline	anterior	
CONSISTENCY	firm	medium	soft	
EFFACEMENT (%)	0 to 30%	40 to 50%	60 to 70%	> 80%
DILATION (cm)	closed	1 to 2 cm	3 to 4 cm	> 5 cm
STATION	-3	-2	-1 to 0	+1 to +2

Before we start…



BISHOP SCORE

Cervix	0 points	1 point	2 points	3 points
POSITION	posterior	midline	anterior	
CONSISTENCY	firm	medium	soft	
EFFACEMENT (%)	0 to 30%	40 to 50%	60 to 70%	> 80%
ATION (cm)	closed	1 to 2 cm	3 to 4 cm	> 5 cm
STATION	-3	-2	-1 to 0	+1 to +2

Table 24.2 Calder modification of Bishop score.

Score	0	1	2	3
Dilation (cm)	<1	1–2	2–4	>4
Length of cervix (cm)	>4	2–4	1–2	<1
Station (relative to ischial spines)	–3	–2	–1/0	+1/+2
Consistency	Firm	Average	Soft	–
Position	Posterior	Mid/anterior		

Before we start…

BISHOP SCORE

Cervix	0 points	1 point	2 points	3 points
POSITION	posterior	midline	anterior	
CONSISTENCY	firm	medium	soft	
EFFACEMENT (%)	0 to 30%	40 to 50%	60 to 70%	> 80%
ATION (cm)	closed	1 to 2 cm	3 to 4 cm	> 5 cm
STATION	-3	-2	-1 to 0	+1 to +2

Table 24.2 Calder modification of Bishop score.

Score	0	1	2	3
Dilation (cm)	<1	1–2	2–4	>4
Length of cervix (cm)	>4	2–4	1–2	<1
Station (relative to ischial spines)	–3	–2	–1/0	+1/+2
Consistency	Firm	Average	Soft	–
Position	Posterior	Mid/anterior		

Before we start…

BISHOP SCORE
to assess cervical favorability

CERVIX	SCORE				BISHOP SCORE MODIFIERS
	0	1	2	3	
POSITION	Posterior	Mid-position	Anterior		**Add 1 point for:** • Pre-eclampsia • Each previous vaginal delivery **Subtract 1 point for:** • Postdate pregnancy • Nulliparity (no previous vaginal deliveries) • PPROM (premature preterm rupture of membranes)
CONSISTENCY	Firm	Medium	Soft		
EFFACEMENT	0 - 30%	30 - 50%	60 - 70%	>80%	
DILATION	Closed	1 - 2 cm	3 - 4 cm	>5 cm	
STATION	-3	-2	-1	+1, +2	

POSITION	posterior	midline	anterior	
CONSISTENCY	firm	medium	soft	
EFFACEMENT (%)	0 to 30%	40 to 50%	60 to 70%	> 80%
ATION (cm)	closed	1 to 2 cm	3 to 4 cm	> 5 cm
STATION	-3	-2	-1 to 0	+1 to +2

Table 24.2 Calder modification of Bishop score.

Score	0	1	2	3
Dilation (cm)	<1	1–2	2–4	>4
Length of cervix (cm)	>4	2–4	1–2	<1
Station (relative to ischial spines)	–3	–2	–1/0	+1/+2
Consistency	Firm	Average	Soft	–
Position	Posterior	Mid/anterior		

Before we start…

BISHOP SCORE
to assess cervical favorability

CERVIX	SCORE				BISHOP SCORE MODIFIERS
	0	1	2	3	
POSITION	Posterior	Mid-position	Anterior		**Add 1 point for:** • Pre-eclampsia • Each previous vaginal delivery **Subtract 1 point for:** • Postdate pregnancy • Nulliparity (no previous vaginal deliveries) • PPROM (premature preterm rupture of membranes)
CONSISTENCY	Firm	Medium	Soft		
EFFACEMENT	0 - 30%	30 - 50%	60 - 70%	>80%	
DILATION	Closed	1 - 2 cm	3 - 4 cm	>5 cm	
STATION	-3	-2	-1	+1, +2	

POSITION	posterior	midline	anterior	
CONSISTENCY	firm	medium	soft	
EFFACEMENT (%)	0 to 30%	40 to 50%	60 to 70%	> 80%
ATION (cm)	closed	1 to 2 cm	3 to 4 cm	> 5 cm
STATION	-3	-2	-1 to 0	+1 to +2

Table 24.2 Calder modification of Bishop score.

Score	0	1	2	3
Dilation (cm)	<1	1–2	2–4	>4
Length of cervix (cm)	>4	2–4	1–2	<1
Station (relative to ischial spines)	–3	–2	–1/0	+1/+2
Consistency	Firm	Average	Soft	–
Position	Posterior	Mid/anterior		

Befor

NEJM Journal Watch

SPECIALTIES & TOPICS | NEWS | BLOGS | CME | SPECIAL FEATURES | ARCHIVES

SUMMARY AND COMMENT | WOMEN'S HEALTH

April 21, 2011

A Simplified Bishop Score

Diane J. Angelini, EdD, CNM, FACNM, FAAN, NEA-BC reviewing Laughon SK et al. Obstet Gynecol 2011 Apr

The time has come.

The Bishop score is derived from a five-component system to predict cervical readiness for induction of labor; a score >8 (on a scale of 0 to 13) signifies that vaginal delivery will succeed. In an analysis of uncomplicated singleton vaginal deliveries in 5610 participants (70% white) in the Consortium on Safe Labor, researchers sought to develop a simpler scoring system that would be an equally effective predictor. Logistic regression coefficients were calculated for each Bishop component (cervical dilation, effacement, consistency, and position and fetal station) to determine which elements were independently associated with successful vaginal delivery. A simplified score was created based on those components that were key contributors to outcome.

Dilation, station, and effacement had the largest regression coefficients and were significantly associated with vaginal delivery; thus, these three components were used to determine a simplified score. Compared with the original Bishop score of >8, a simplified score of >5 had similar positive and negative predictive values. Both scores also were associated with similar vaginal delivery rates.

Table 24.2 Calder

Score
Dilation (cm)
Length of cervix (
Station (relative to ischial spines)
Consistency
Position

ISHOP SCORE MODIFIERS

point for:
e-eclampsia
ch previous vaginal delivery
ct 1 point for:
stdate pregnancy
lliparity (no previous vaginal liveries)
ROM (premature preterm pture of membranes)

0%	> 80%
cm	> 5 cm
0	+1 to +2

Befor

NEJM Journal Watch

SPECIALTIES & TOPICS | NEWS | BLOGS | CME | SPECIAL FEATURES | ARCHIVES

SUMMARY AND COMMENT | WOMEN'S HEALTH

April 21, 2011

A Simplified Bishop Score

Diane J. Angelini, EdD, CNM, FACNM, FAAN, NEA-BC reviewing Laughon SK et al. Obstet Gynecol 2011 Apr

The time has come.

The Bishop score is derived from a five-component system to predict cervical readiness for induction of labor; a score >8 (on a scale of 0 to 13) signifies that vaginal delivery will succeed. In an analysis of uncomplicated singleton vaginal deliveries in 5610 participants (70% white) in the Consortium on Safe Labor, researchers sought to develop a simpler scoring system that would be an equally effective predictor. Logistic regression coefficients were calculated for each Bishop component (cervical dilation, effacement, consistency, and position and fetal station) to determine which elements were independently associated with successful vaginal delivery. A simplified score was created based on those components that were key contributors to outcome.

Dilation, station, and effacement had the largest regression coefficients and were significantly associated with vaginal delivery; thus, these three components were used to determine a simplified score. Compared with the original Bishop score of >8, a simplified score of >5 had similar positive and negative predictive values. Both scores also were associated with similar vaginal delivery rates.

ISHOP SCORE MODIFIERS

point for:
e-eclampsia
ch previous vaginal delivery
ct 1 point for:
stdate pregnancy
lliparity (no previous vaginal
liveries)
ROM (premature preterm
pture of membranes)

Table 24.2 Calder

Score		
Dilation (cm)		
Length of cervix (		
Station (relative to ischial spines)		
Consistency		
Position		

0% > 80%

m > 5 cm

0 +1 to +2

Summary

12.1 Modified Bishop scoring system

	0	1	2	3
Dilatation of cervix (cm)	0	1 or 2	3 or 4	5 or more
Consistency of cervix	Firm	Medium	Soft	–
Length of cervical canal (cm)	>2	2–1	1–0.5	<0.5
Position of cervix	Posterior	Central	Anterior	–
Station of presenting part	–3	–2	–1 or 0	Below spines

Simplified Bishop score 5 or more

Simplified Bishop score less than 5

Modified Bishop score 7 or more

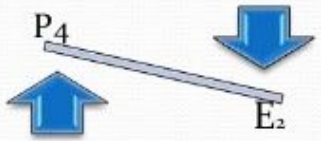
Modified Bishop score less than 7

High score -> favourable' cervix

Low score -> 'unfavourable' cervix

Before we start… D

- First measurable increase in tissue distensibility when compared with non pregnant cervix (Read *et al.*, 2007)



- Change in type **I and III collagen**

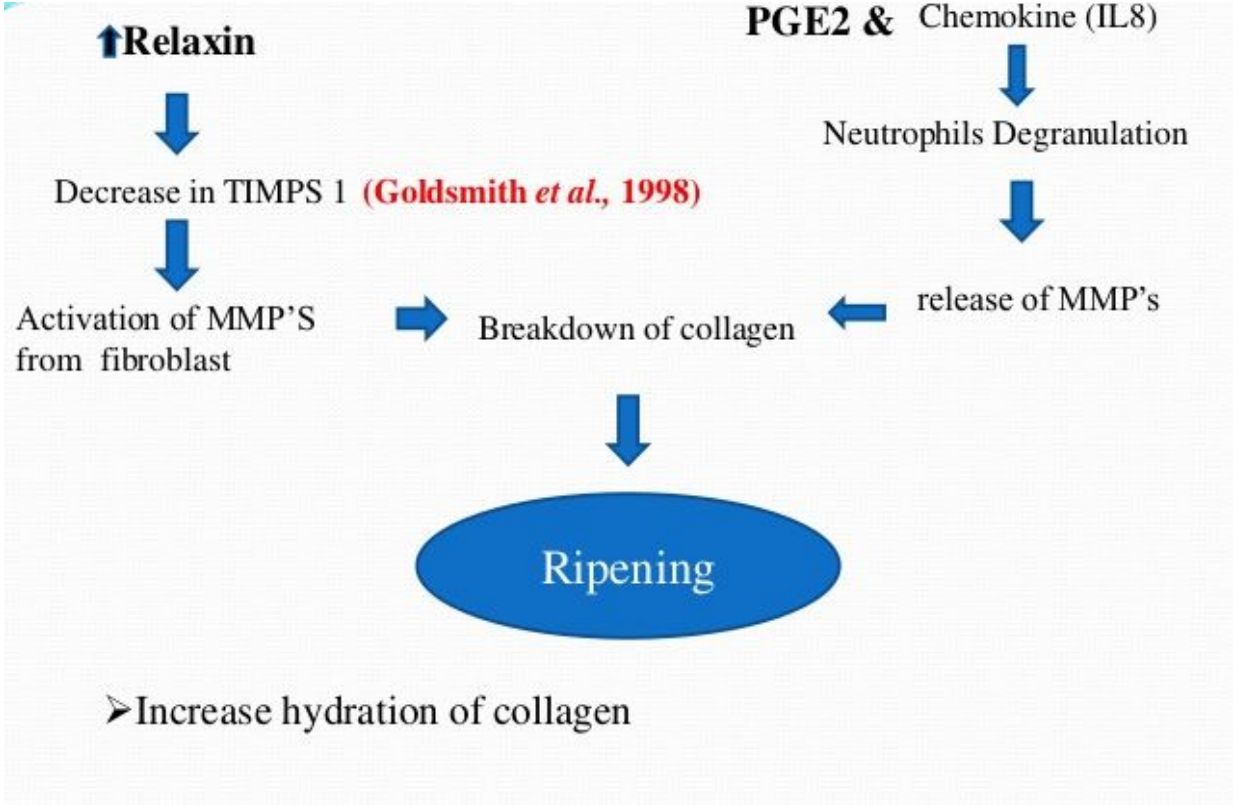
Alteration in processing of collagen monomers

Degradation of fibers

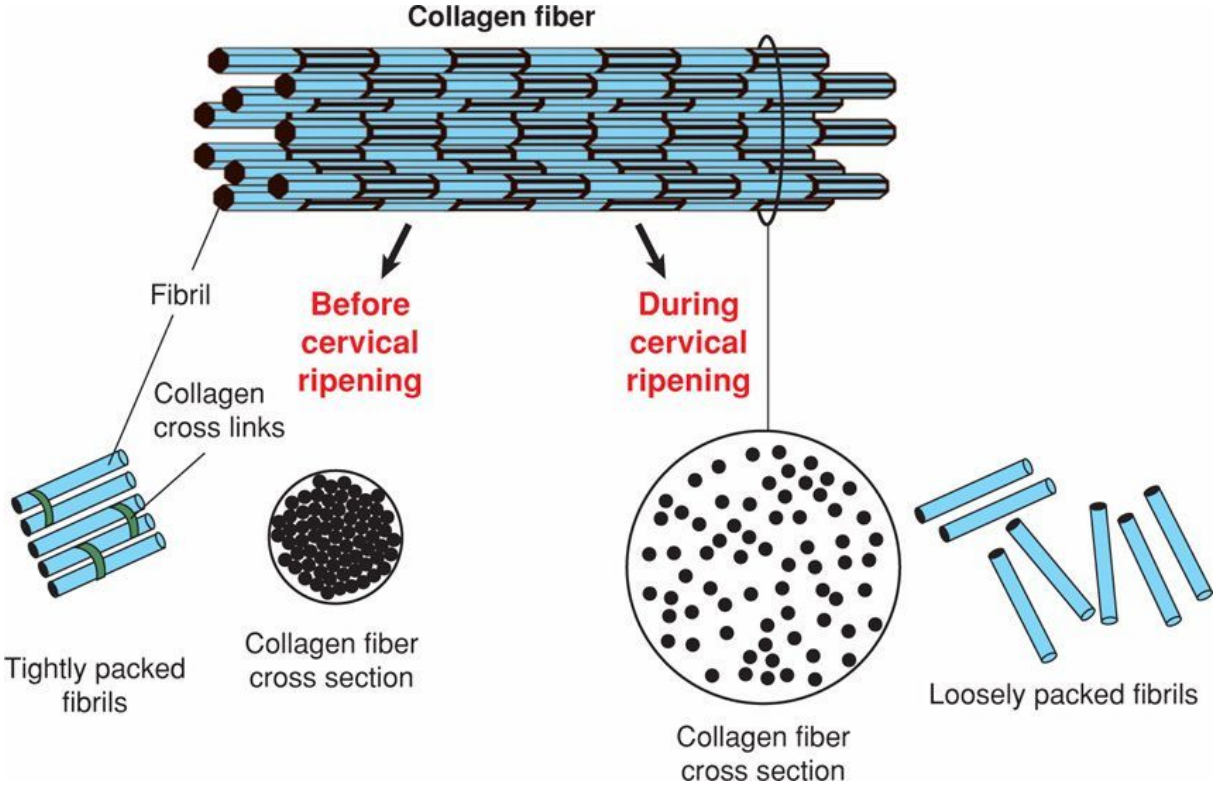
→ can affect collagen structure and its mechanical strength

(Myers *et al.*, 2010)

Before we start… D



Before we start… D



Indications for induction of labour

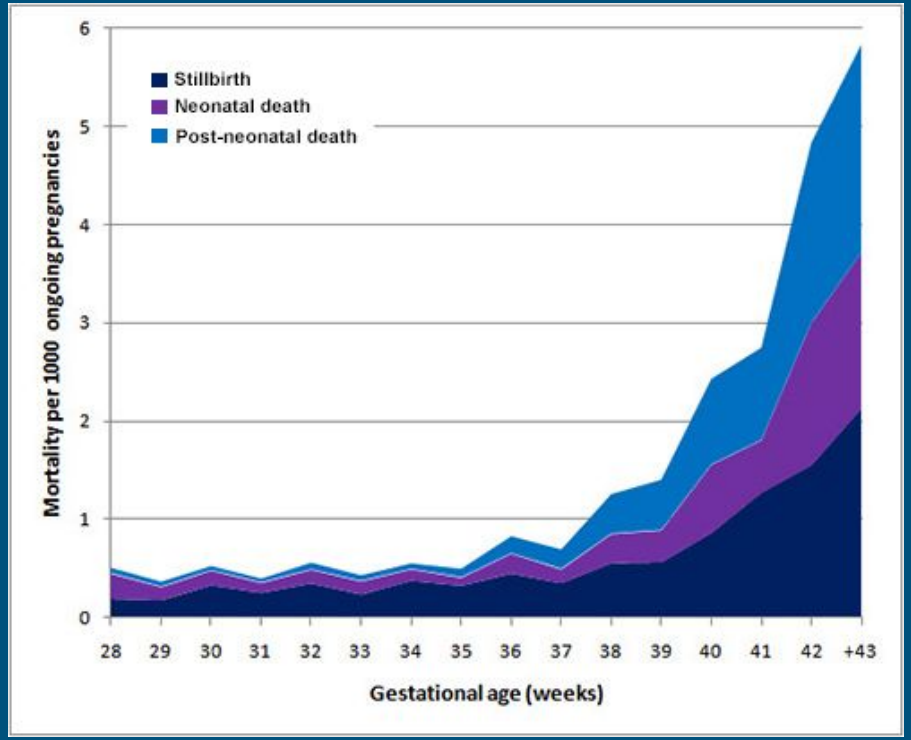
- ❑ prolonged pregnancy
- ❑ maternal diabetes (including gestational diabetes)
- ❑ twin pregnancy
- ❑ prelabour rupture of membranes
- ❑ fetal growth restriction and suspected in utero fetal compromise
- ❑ hypertensive disorders in pregnancy and other maternal medical conditions
- ❑ maternal request
- ❑ history of precipitate labour
- ❑ history of reduced fetal movements at term
- ❑ suspected fetal macrosomia.

Indications for induction of labour

- **prolonged pregnancy**
- maternal diabetes (including gestational diabetes)
- twin pregnancy
- prelabour rupture of membranes
- fetal growth restriction and suspected in utero fetal compromise
- hypertensive disorders in pregnancy and other maternal medical conditions
- maternal request
- history of precipitate labour
- history of reduced fetal movements at term
- suspected fetal macrosomia.

Prolonged Pregnancy

- ➔ **Definition** (vs Post Date pregnancy)
- ➔ **Epidemiology**
- ➔ **Why?**
- ➔ **Risks and benefits**



Advise ultrasound scan to determine gestational age using:

- CRL measurement from 10 wks 0 to 13 +6
- HC if CDL length is above 84 mm.

Reduce the rates of IOL for post-term pregnancy

Indications for induction of labour

- ❑ prolonged pregnancy
- ❑ **maternal diabetes (including gestational diabetes)**
- ❑ twin pregnancy
- ❑ prelabour rupture of membranes
- ❑ fetal growth restriction and suspected in utero fetal compromise
- ❑ hypertensive disorders in pregnancy and other maternal medical conditions
- ❑ maternal request
- ❑ history of precipitate labour
- ❑ history of reduced fetal movements at term
- ❑ suspected fetal macrosomia.

Maternal diabetes (including gestational diabetes)

Why?

When?

Outcome?

Maternal diabetes (including gestational diabetes)

Why?

Macrosomia → Shoulder dystocia → Birth injury

Unexplained stillbirth and intrapartum death

When?

Outcome?

Maternal diabetes (including gestational diabetes)

Why?

Macrosomia → Shoulder dystocia → Birth injury

Unexplained stillbirth and intrapartum death

When?

?? 37 wks - ***38 to 39+6*** - ?? 40+6 wks

Outcome?

Maternal diabetes (including gestational diabetes)

Why?

Macrosomia → Shoulder dystocia → Birth injury

Unexplained stillbirth and intrapartum death

When?

?? 37 wks - ***38 to 39+6*** - ?? 40+6 wks

Outcome?

↓ Still birth, ↓ Shoulder dystocia, ↔ CS %

Indications for induction of labour

- ❑ prolonged pregnancy
- ❑ maternal diabetes (including gestational diabetes)
- ❑ **twin pregnancy**
- ❑ prelabour rupture of membranes
- ❑ fetal growth restriction and suspected in utero fetal compromise
- ❑ hypertensive disorders in pregnancy and other maternal medical conditions
- ❑ maternal request
- ❑ history of precipitate labour
- ❑ history of reduced fetal movements at term
- ❑ suspected fetal macrosomia.

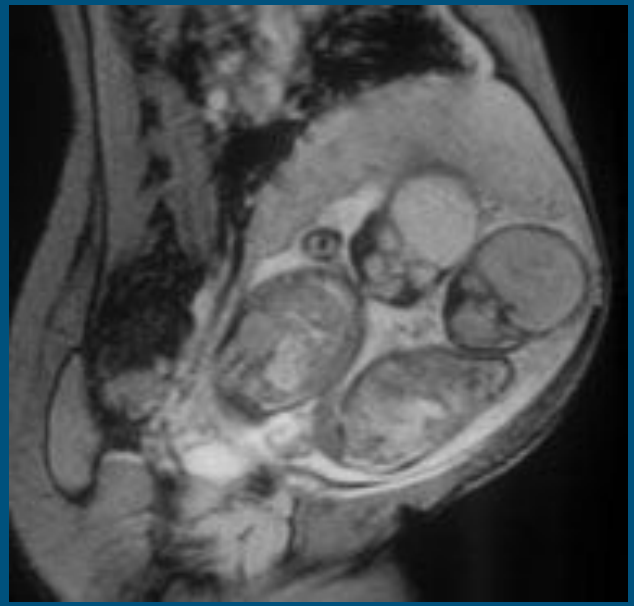
Twin pregnancy

Risks \ Benefits

Chorionicity??

Eligible for vaginal delivery

GA: 36 - 37 weeks



Indications for induction of labour

- prolonged pregnancy
- maternal diabetes (including gestational diabetes)
- twin pregnancy
- **prelabour rupture of membranes**
- fetal growth restriction and suspected in utero fetal compromise
- hypertensive disorders in pregnancy and other maternal medical conditions
- maternal request
- history of precipitate labour
- history of reduced fetal movements at term
- suspected fetal macrosomia.

Prelabour rupture of membranes

Definition

Epidemiology

Prelabour rupture of membranes

Definition

Epidemiology

Risks/benefits of IOL for PROM at term

- Reduced risk of chorioamnionitis (NNT 50) and endometritis
- Fewer neonatal unit admissions (NNT 20)
- No increase risk in caesarean section or operative vaginal delivery
- Increased maternal satisfaction
- Increased risk of lower birthweight.

Prelabour rupture of membranes

Definition

Epidemiology

Risks/benefits of IOL for PROM at term

- Reduced risk of chorioamnionitis (NNT 50) and endometritis
- Fewer neonatal unit admissions (NNT 20)
- No increase risk in caesarean section or operative vaginal delivery
- Increased maternal satisfaction
- Increased risk of lower birthweight.

Risks/benefits of IOL for PROM preterm

- Reduced risk of chorioamnionitis
- Caesarian section rates not increased
- Neonatal outcomes (Apgar score at 5 minutes, neonatal intensive care unit admission, sepsis and total hospital stay) not increased
- Reduced incidence of fetal heart abnormalities.

Indications for induction of labour

- ❑ prolonged pregnancy
- ❑ maternal diabetes (including gestational diabetes)
- ❑ twin pregnancy
- ❑ prelabour rupture of membranes
- ❑ **fetal growth restriction and suspected in utero fetal compromise**
- ❑ hypertensive disorders in pregnancy and other maternal medical conditions
- ❑ maternal request
- ❑ history of precipitate labour
- ❑ history of reduced fetal movements at term
- ❑ suspected fetal macrosomia.

Fetal growth restriction and suspected in utero fetal compromise

Definition and Epidemiology

Timing of delivery remains unclear

Immediate delivery vs Expectant management:

- CS is higher
- No difference in overall mortality

Fetal growth restriction and suspected in utero fetal compromise

Definition and Epidemiology

Timing of delivery remains unclear

Immediate delivery vs Expectant management:

- CS is higher
- No difference in overall mortality

The decision to deliver by elective caesarean section or to induce labour has to be made on an individual basis.

Indications for induction of labour

- prolonged pregnancy
- maternal diabetes (including gestational diabetes)
- twin pregnancy
- prelabour rupture of membranes
- fetal growth restriction and suspected in utero fetal compromise
- **hypertensive disorders in pregnancy and other maternal medical conditions**
- maternal request
- history of precipitate labour
- history of reduced fetal movements at term
- suspected fetal macrosomia.

Hypertensive disorders in pregnancy and other maternal medical conditions

- New diagnosis of pre-eclampsia + from 37 weeks ➜ offer IOL
- Controlled chronic hypertension and controlled GHTN IOL after 37 weeks.

- ~ 34 weeks - individualized

NICE guideline

Hypertensive disorders in pregnancy and other maternal medical conditions

- New diagnosis of pre-eclampsia + from 37 weeks ➜ offer IOL
- Controlled chronic hypertension and controlled GHTN IOL after 37 weeks.

- ~ 34 weeks - individualized

NICE guideline

At term, IOL is associated with improved maternal outcome and should be advised for women with mild hypertensive disease.

Indications for induction of labour

- ❑ prolonged pregnancy
- ❑ maternal diabetes (including gestational diabetes)
- ❑ twin pregnancy
- ❑ prelabour rupture of membranes
- ❑ fetal growth restriction and suspected in utero fetal compromise
- ❑ hypertensive disorders in pregnancy and other maternal medical conditions
- ❑ **maternal request**
- ❑ history of precipitate labour
- ❑ history of reduced fetal movements at term
- ❑ suspected fetal macrosomia.

Maternal request

Why?

Evidence

Conclusion:

NOt recommended

In exceptional cases: not before 40 weeks

Indications for induction of labour

- ❑ prolonged pregnancy
- ❑ maternal diabetes (including gestational diabetes)
- ❑ twin pregnancy
- ❑ prelabour rupture of membranes
- ❑ fetal growth restriction and suspected in utero fetal compromise
- ❑ hypertensive disorders in pregnancy and other maternal medical conditions
- ❑ maternal request
- ❑ **history of precipitate labour**
- ❑ history of reduced fetal movements at term
- ❑ suspected fetal macrosomia.

History of precipitous labour

In theory: may avoid birth outside hospital

In practice: Little evidence

Indications for induction of labour

- ❑ prolonged pregnancy
- ❑ maternal diabetes (including gestational diabetes)
- ❑ twin pregnancy
- ❑ prelabour rupture of membranes
- ❑ fetal growth restriction and suspected in utero fetal compromise
- ❑ hypertensive disorders in pregnancy and other maternal medical conditions
- ❑ maternal request
- ❑ history of precipitate labour
- ❑ **history of reduced fetal movements at term**
- ❑ suspected fetal macrosomia.

History of reduced fetal movements at term

Related to stillbirth

Individual basis:

Recurrent or once?

Liquor volume, fetal growth and CTG ?

Indications for induction of labour

- prolonged pregnancy
- maternal diabetes (including gestational diabetes)
- twin pregnancy
- prelabour rupture of membranes
- fetal growth restriction and suspected in utero fetal compromise
- hypertensive disorders in pregnancy and other maternal medical conditions
- maternal request
- history of precipitate labour
- history of reduced fetal movements at term
- suspected fetal macrosomia.

Suspected fetal macrosomia

Definition

Why?

Need reliable diagnosis

Diabetic?

Previous shoulder dystocia?

Suspected fetal macrosomia

Definition

Why?

Need reliable diagnosis

Diabetic?

High risk for shoulder dystocia?

Maternal Age

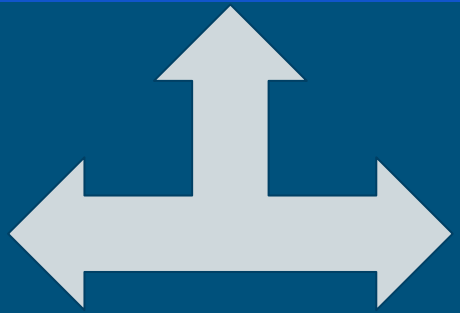
≥40 years of age ⇨ Higher stillbirth after 40 weeks

Maternal Age

≥40 years of age ⇨ Higher stillbirth after 40 weeks

➔ **Offer IOL at 39-40 weeks**

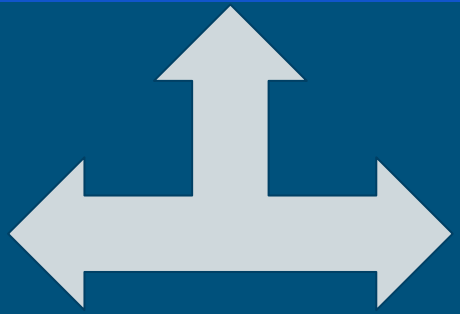
Wait for Spontaneous Labour



Elective C-section

Induction of Labour

Wait for Spontaneous Labour



Elective C-section

Induction of Labour

Key points

IOL is recommended:

- beyond 41 weeks of gestation
- before the estimated date of delivery in pregnancies complicated by diabetes
- in prelabour rupture of membranes at term
- severe pre-eclampsia beyond 34 weeks of gestation
- hypertension or mild pre-eclampsia beyond 37 weeks of gestation
- if maternal age ≥40 years of age.

IOL should be considered:

- In women with reduced fetal movements at term.

The pros and cons of IOL should be discussed:

- In women with suspected fetal macrosomia.

Contraindications to Induction of Labour

Absolute?

- placenta praevia/vasa praevia
- transverse lie
- prolapsed umbilical cord
- active genital herpes (first episode in third trimester – not recurrent herpes)
- previous classical uterine incision
- maternal or fetal anatomical abnormality that contraindicates vaginal delivery.
- triplet or higher order multiple pregnancy
- breech presentation
- two or more previous low transverse caesarean sections

Contraindications to Induction of Labour

Induction of labour is contraindicated where vaginal delivery is contraindicated.

Absolute?

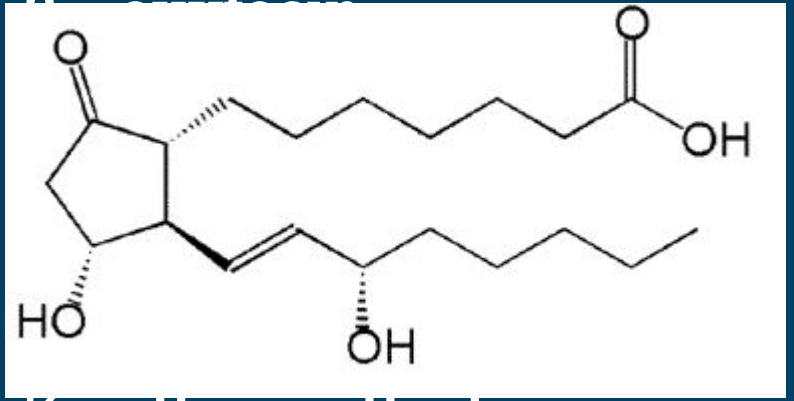
- placenta praevia/vasa praevia
- transverse lie
- prolapsed umbilical cord
- active genital herpes (first episode in third trimester – not recurrent herpes)
- previous classical uterine incision
- maternal or fetal anatomical abnormality that contraindicates vaginal delivery.
- triplet or higher order multiple pregnancy
- breech presentation
- two or more previous low transverse caesarean sections

Methods of induction of labour

1. **prostaglandin**
2. **oxytocin**
3. **misoprostol**
4. **isosorbide mononitrate**
5. **mechanical methods**
6. **amniotomy**
7. **other methods.**

Methods of induction of labour

1. **prostaglandin**



7. **other methods.**

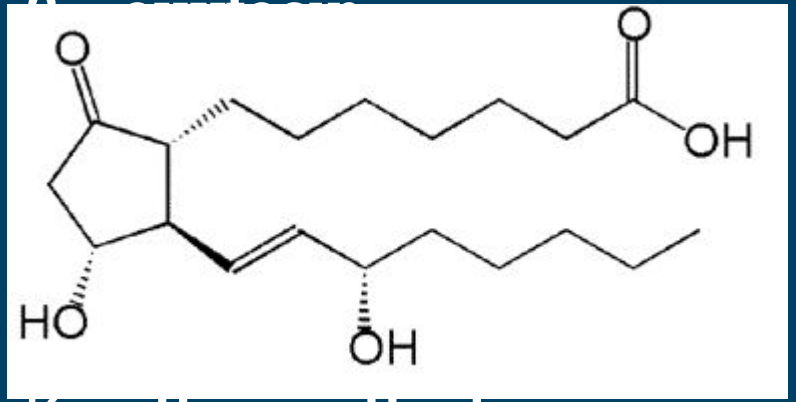
Mode of action of prostaglandins:

Prostaglandin E2
⇑ cervical ripening ➥ ⇑ uterine contraction and retraction

Treatment types:

- Tablets
- **Gel**
- **Slow release pessary**

1. **prostaglandin**

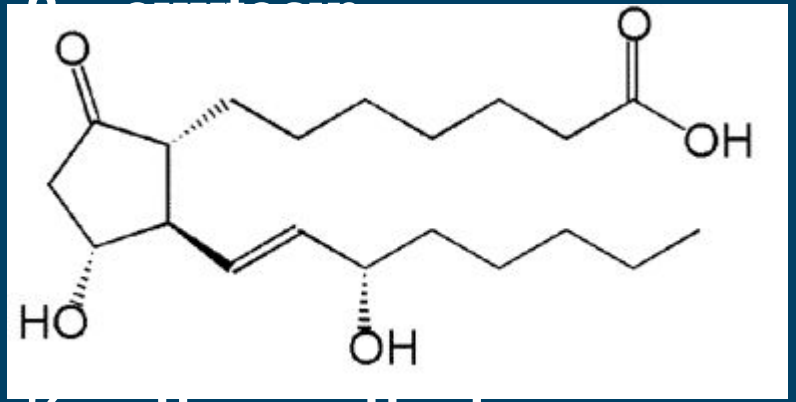


7. **other methods.**

Treatme types:

- Tablets
- Gel
- Slow release pessary

1. prostaglandin
2. oxytocin



7. other methods.

Mode of action of prostaglandins:

Prostaglandin E2
⇑ cervical ripening ➥ ⇑ uterine contraction and retraction

Treatment types:

- Tablets
- Gel
- **Slow release pessary**

7. other methods.

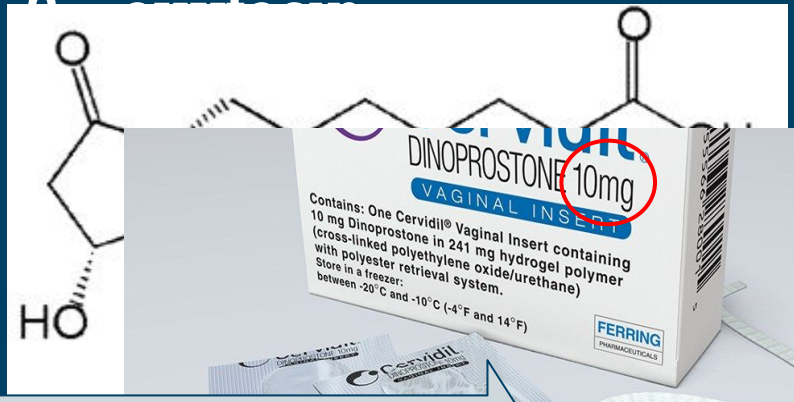
Mode of action of prostaglandins:

Prostaglandin E2
⇑ cervical ripening ➥ ⇑ uterine contraction and retraction

Treatment types:

- Tablets
- **Gel**
- **Slow release pessary**

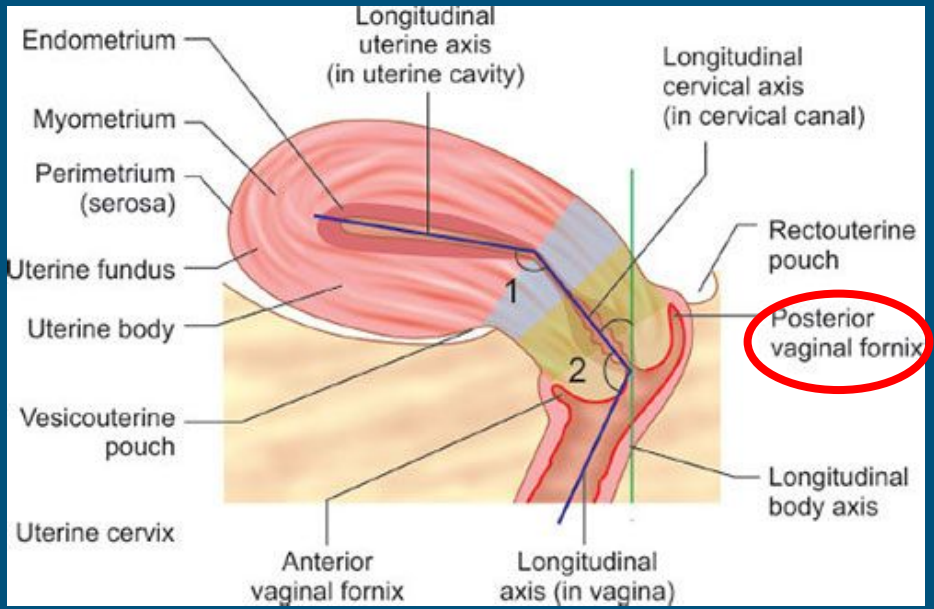
1. **prostaglandin**




1

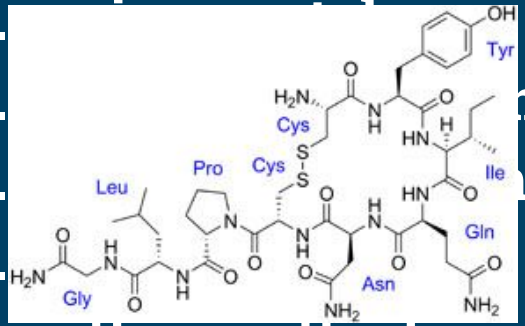

2


3

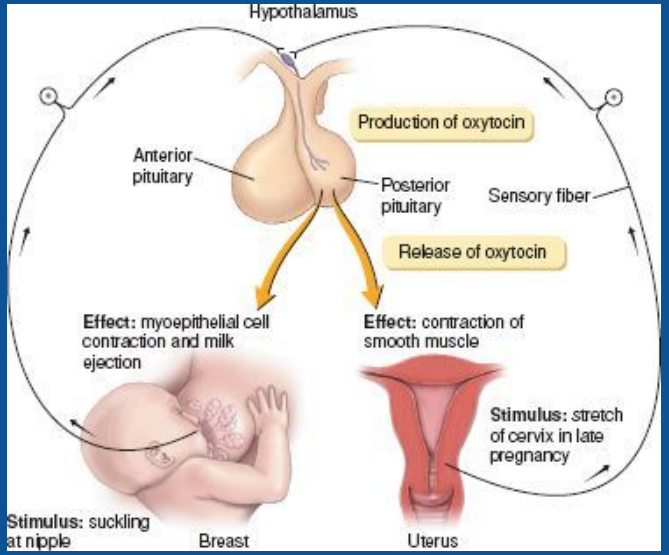

Endometrium
Myometrium
Perimetrium (serosa)
Uterine fundus
Uterine body
Vesicouterine pouch
Uterine cervix
Longitudinal uterine axis (in uterine cavity)
Longitudinal cervical axis (in cervical canal)
Rectouterine pouch
Posterior vaginal fornix
Longitudinal body axis
Anterior vaginal fornix
Longitudinal axis (in vagina)
1
2

Methods of induction of labour

1. prostaglandin
2. oxytocin
3.
4. nitrate
5. ods
6.
7. other methods.



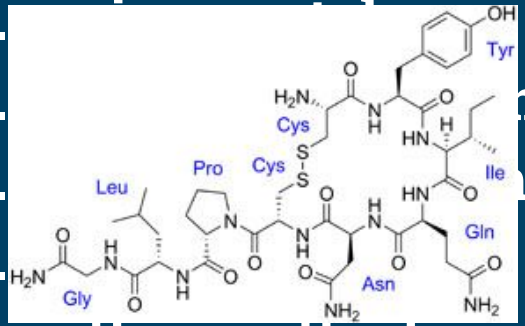
Mode of action:



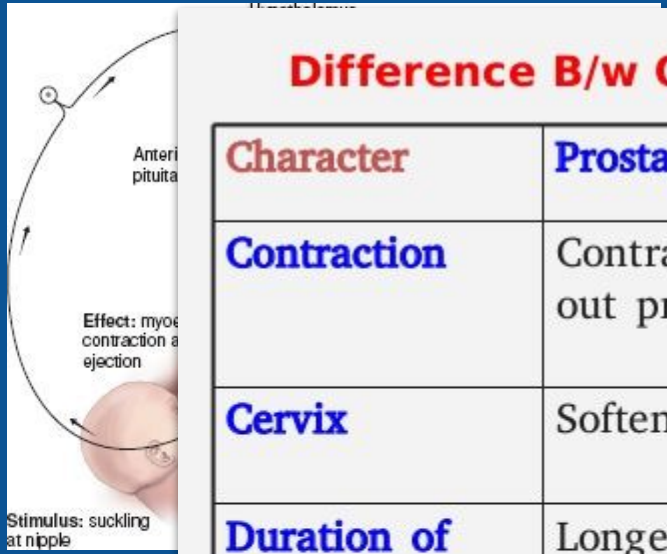
Practical aspects of using oxytocin:

- By infusion
- Titrated by uterine contractions
- Cause fluid retention, after stopping ➥ polyuria

1. prostaglandin
2. oxytocin
3.
4. nitrate
5. ods
6.
7. other methods.



Mode of action:



Difference B/w Oxytocin and Prostaglandins

Character	Prostaglandins	Oxytocin
Contraction	Contraction through out pregnancy	Only at term
Cervix	Soften the cervix	Does not soften the cervix
Duration of action	Longer	Shorter

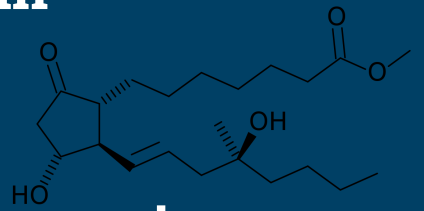
...nitrate
...ods

Practical aspects of using oxytocin:

- By infusion
- Titrated by uterine contractions
- Cause fluid retention, after stopping ➥ polyuria

Methods of induction of labour

1. prostaglandin
2. oxytocin
3. misoprostol
4. isosorbide mononitrate
5. mechanical methods
6. amniotomy
7. other methods.

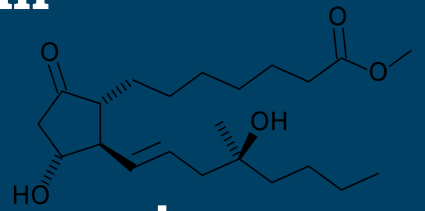


- **synthetic prostaglandin E1 analogue**
- **cheap and stable at room temperature**
- **given orally, vaginally or sublingually.**

Dosage

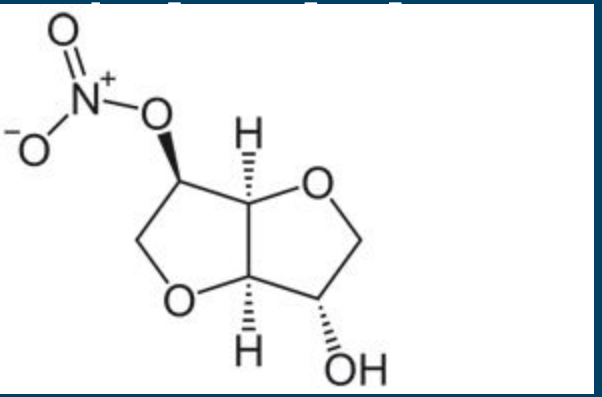
- Oral: maximum 50 micrograms
- Vaginal: maximum 25 micrograms 4-hourly
- Vaginal slow release pessary: 200 micrograms over 24 hours.

1. **prostaglandin**
2. **oxytocin**
3. **misoprostol**
4. **isosorbide mononitrate**
5. **me ods**
6. **am**
7. **othe**



Methods of induction of labour

1. prostaglandin
2. oxytocin
3. misoprostol
4. **isosorbide mononitrate**
5.
6.
7.

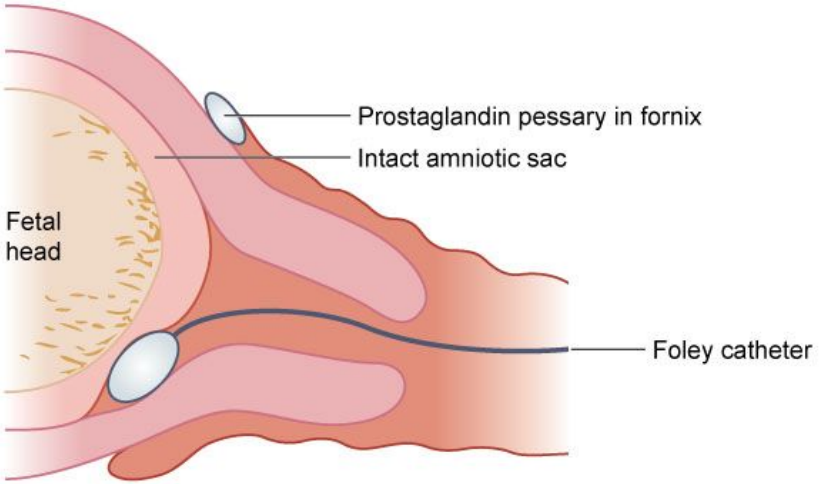


Bottom line

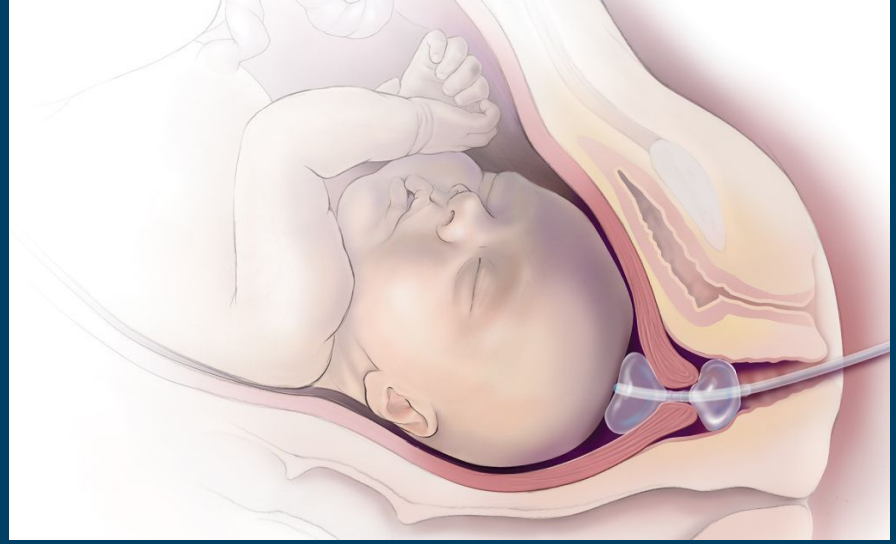
IMN can be used for cervical ripening during the induction process. IMN is no more effective than PGE2 in inducing a change in the modified Bishop score. Use of IMN in the outpatient setting does not shorten the admission to delivery interval.

Methods of induction of labour

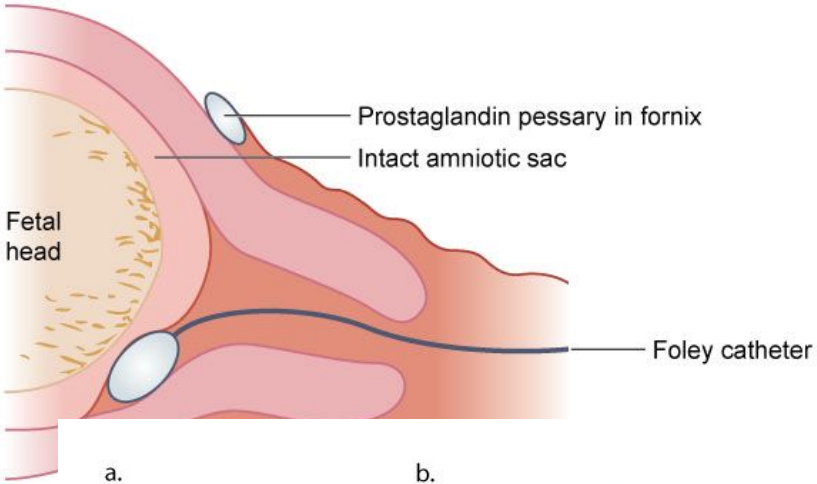
1. prostaglandin
2. oxytocin
3. misoprostol
4. isosorbide mononitrate
5. **mechanical methods**
6. amniotomy
7. other methods.

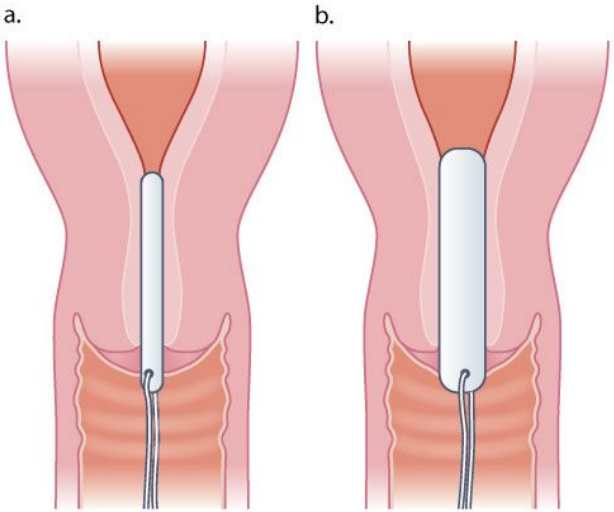


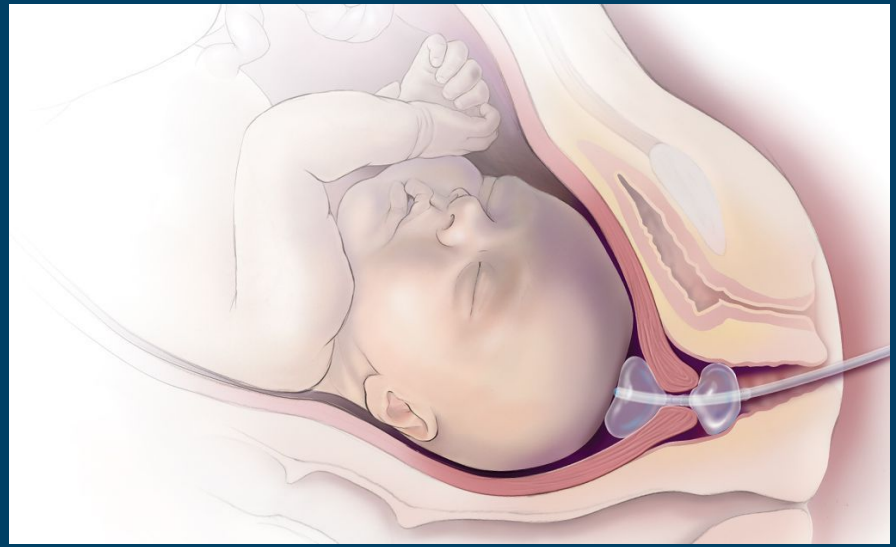
labour



5. **mechanical methods**
6. **amniotomy**
7. **other methods.**







5. **mechanical methods**
6. **amniotomy**
7. **other methods.**

Advantages

- Simplicity of preservation
- Lower cost
- Reduction of side-effects from medical treatments.

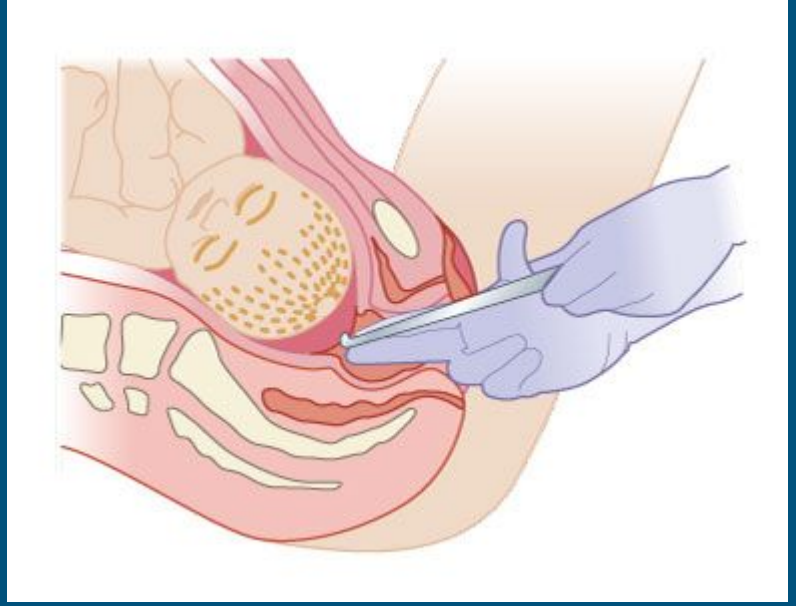
Disadvantages

- Difficulty in inserting through an unfavourable cervix for the operator, and discomfort for the woman
- Risk of infection
- Low-lying placenta is a contraindication.

1. **prostaglandin**
2. **oxytocin**
3. **misoprostol**
4. **isosorbide mononitrate**
5. **mechanical methods**
6. **amniotomy**
7. **other methods.**

Methods of induction of labour

1. prostaglandin
2. oxytocin
3. misoprostol
4. isosorbide mononitrate
5. mechanical methods
6. **amniotomy**
7. other methods.



labour

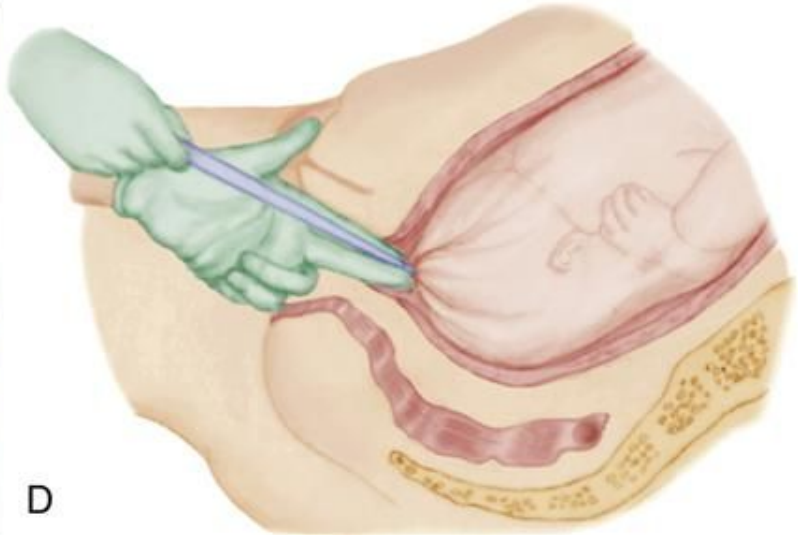
- Need oxytocin augmentation
- The membranes should be physically accessible.
- Risks
- Other indications

1. prostaglandin
2. oxytocin
3. misoprostol
4. isosorbide mononitrate
5. mechanical methods
6. amniotomy
7. other methods.


A


B


C


D

Methods of induction of labour

1. **prostaglandin**
2. **oxytocin**
3. **misoprostol**
4. **isosorbide mononitrate**
5. **mechanical methods**
6. **amniotomy**
7. **other methods.**

- Mifepristone
- Hyaluronidase
- Relaxin
- Corticosteroids
- Estrogens
- Homeopathy
- Acupuncture

1. prostaglandin
2. oxytocin
3. misoprostol
4. isosorbide mononitrate
5. mechanical methods
6. amniotomy
7. other methods.

- Mifepristone
- Hyaluronidase
- Relaxin
- Corticosteroids
- Estrogens
- Homeopathy
- Acupuncture

1. prostaglandin
2. oxytocin
3. misoprostol
4. isosorbide mononitrate
5. mechanical methods
6. amniotomy
7. other methods.

Complications of Induction of Labour

1. Hyperstimulation
2. Fetal distress
3. Failed induction
4. Ruptured Uterus
5. Adverse effects of drugs used for induction

Complications of Induction of Labour

1. Hyperstimulation
2. Fetal distress
3. Failed induction
4. Ruptured Uterus
5. Adverse effects of drugs used for induction

Complications of Induction of Labour

1. Hyperstimulation
2. Fetal distress
3. Failed induction
4. Ruptured Uterus
5. Adverse effects of drugs used for induction

Tachysystole

Hypertonus

+

CTG changes

Uterine Hyperstimulation

Complications of Induction of Labour

1. Hyperstimulation
2. Fetal distress
3. Failed induction
4. Ruptured Uterus
5. Adverse effects of drugs used for induction

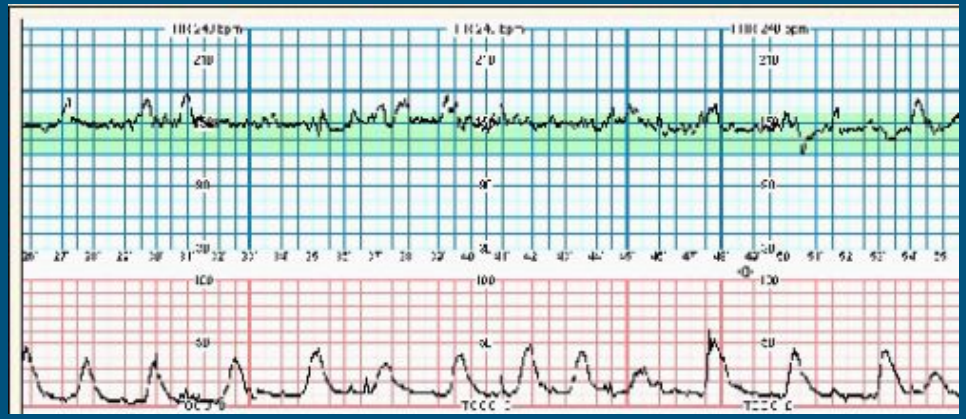
Tachysystole

Hypertonus

+

CTG changes

Uterine Hyperstimulation



Complications of Induction of Labour

1. Hyperstimulation
2. Fetal distress
3. Failed induction
4. Ruptured Uterus
5. Adverse effects of drugs used for induction

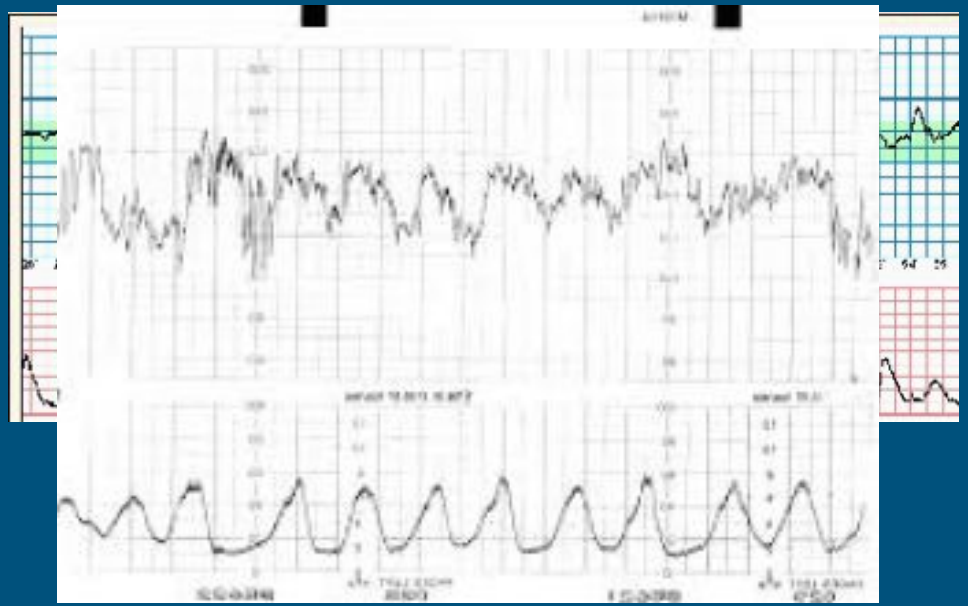
Tachysystole

Hypertonus

+

CTG changes

Uterine Hyperstimulation



Complications of Induction of Labour

1. Hyperstimulation
2. Fetal distress
3. Failed induction
4. Ruptured Uterus
5. Adverse effects of drugs used for induction

Management:
Oxytocin - Stop
PGs - ?? Remove

Complications of Induction of Labour

1. Hyperstimulation
2. Fetal distress
3. Failed induction
4. Ruptured Uterus
5. Adverse effects of drugs used for induction

Management:
Oxytocin - Stop
PGs - ?? Remove

If no Response:
Tocolysis

Complications of Induction of Labour

1. Hyperstimulation
2. Fetal distress
3. Failed induction
4. Ruptured Uterus
5. Adverse effects of drugs used for induction

Management:
Oxytocin - Stop
PGs - ?? Remove

If no Response:
Tocolysis

Still no response:
Emergency CS

Complications of Induction of Labour

1. Hyperstimulation
2. Fetal distress
3. Failed induction
4. Ruptured Uterus
5. Adverse effects of drugs used for induction

Management:
Oxytocin - Stop
PGs - ?? Remove

If no Response:
Tocolysis

Still no response:
Emergency CS

Complications of Induction of Labour

1. Hyperstimulation
2. Fetal distress
3. Failed induction
4. Ruptured Uterus
5. Adverse effects of drugs used for induction

If severe and refractory to conservative management → Emergency CS

Complications of Induction of Labour

1. Hyperstimulation
2. Fetal distress
3. Failed induction
4. Ruptured Uterus
5. Adverse effects of drugs used for induction

If severe and refractory to conservative management → Emergency CS

Where suspected fetal compromise is among the indications for IOL, the baby is less able to withstand any reductions in placental oxygenation, leading to fetal distress.

Complications of Induction of Labour

1. Hyperstimulation
2. Fetal distress
3. **Failed induction**
4. Ruptured Uterus
5. Adverse effects of drugs used for induction

The options in this scenario include:

a. allowing the woman to go home and repeat the attempt at a later gestation
b. waiting for labour to start spontaneously
c. scheduling delivery by caesarean section
d. considering the use of alternative cervical ripening strategies such as an intracervical Foley catheter.

CEOG Clinical and Experimental Obstetrics & Gynecology

Original Research

The association between repeated doses of vaginal PGE2 (Dinoprostone, Prostin®) and both maternal and neonatal outcomes among women in the north of Jordan

A.M. Sindiani[1,*], H.M. Rawashdeh[1], E.H. Alshdaifat[1,2], O.F. Altal[1], H. Yaseen[1], A.A. Alhowary[3]

[1]*Department of Obstetrics and Gynecology, Faculty of Medicine, Jordan University of Science and Technology, Irbid*

[2]*Department of Obstetrics and Gynecology, Faculty of Medicine, Yarmouk University, Irbid*

[3]*Department of Anaesthesia, Jordan University of Science and Technology, Irbid, (Jordan)*

Summary

Objective: To evaluate the association between repeated doses of vaginal PGE2 and the maternal and neonatal outcomes for primigravid and multiparous women. *Study design*: A retrospective descriptive study was conducted at a teaching university hospital in Jordan. The study involved 885 women with singleton live fetuses; these women had been admitted to the labor ward for an induction of labor by vaginal PGE2 (Dinoprostone, Prostin®) for different indications from January 2015 to December 2016. The women were classified according to parity into two main groups, namely, primigravid and multiparous. In the primigravid group, the women who had received two or fewer doses of a vaginal PGE2 tablet (3 mg Dinoprostone) were compared with those who had received a PGE2 tablet three times. In the multiparous group, the women who had received one or two doses of half the usual vaginal PGE2 tablet (1.5 mg Dinoprostone) were compared with those who had received the same dose three times. The main outcomes studied were the cesarean section rate and the APGAR score. *Results*: There was a statistically significant association, namely, X^2 (1) = 13.96, P = 0.001, between the repeated doses of PGE2 and the mode of delivery. This indicates that primigravid women who received more than two doses of PGE2 were more likely to have a cesarean section (65.5%, n = 57 out of 87) compared with primigravid women who received two or fewer doses of PGE2 (42.9%, n = 132 out of 308). There was no significant association between repeated doses of PGE2 insertion and admission either to the nursery or the neonatal intensive care unit (NICU) X^2 (1) = 2.11, P = 0.14. Moreover, the results also showed that there was no significant association between repeated doses of PGE2 insertion and the APGAR score X^2 (1) = 0.06, P = 0.88. For multiparous women, there was no statistically significant association X^2 (1) = 2.15, P = 0.14 between repeated doses of PGE2 insertion and the mode of delivery. *Conclusion*: In both groups of primigravid and multiparous women, the third dose of vaginal PGE2 was not associated with a significant increase in maternal or neonatal morbidity. In the primigravid group, despite the third dose of PGE2 being associated with a higher rate

Clinical and Experimental Obstetrics & Gynecology

Clinical and Experimental Obstetrics & Gynecology » 2020, Vol. 47 » Issue (3): 329-334 DOI: 10.31083/j.ceog.2020.03.5322

Original Research

Previous articles | Next articles

The association between repeated doses of vaginal PGE2 (Dinoprostone, Prostin®) and both maternal and neonatal outcomes among women in the north of Jordan

A.M. Sindiani[1, *](✉), H.M. Rawashdeh[1], E.H. Alshdaifat[1, 2], O.F. Altal[1], H. Yaseen[1], A.A. Alhowary[3]

[1] *Department of Obstetrics and Gynecology, Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan*

[2] *Department of Obstetrics and Gynecology, Faculty of Medicine, Yarmouk University, Irbid, Jordan*

[3] *Department of Anaesthesia, Jordan University of Science and Technology, Irbid, Jordan*

Abstract | Related Articles | Recommended | Metrics

Abstract

Objective: To evaluate the association between repeated doses of vaginal PGE2 and the maternal and neonatal outcomes for primigravid and

Complications of Induction of Labour

1. Hyperstimulation
2. Fetal distress
3. Failed induction
4. Ruptured Uterus
5. Adverse effects of drugs used for induction

Symptoms and signs

- Abdominal pain and tenderness
- Shock
- Vaginal bleeding
- Undetectable fetal heart beat
- Palpable fetal body parts
- Cessation of contractions
- Signs of intraperitoneal bleeding
- The most common sign is the **sudden appearance of fetal distress during labor**

5. Adverse effects of drugs used for induction

excessive uterine contractions

+

5. Adverse effects of drugs used for induction

excessive uterine contractions

+

Oxytocin

- ***water intoxication and hyponatraemia***
- nausea and vomiting
- arrhythmias
- anaphylactoid reactions and rashes
- placental abruption
- amniotic fluid embolism (with overdose)

Prostaglandin

- ***nausea, vomiting, diarrhoea***
- pulmonary or amniotic fluid embolism
- abruption
- fetal distress
- ***maternal hypertension***
- ***bronchospasm***
- fever
- backache
- cardiac arrest
- stillbirth or neonatal death
- vaginal discomfort.

Methods of management and complications of prolonged pregnancy

Methods of management and complications of prolonged pregnancy

When to induce?

Methods of management and complications of prolonged pregnancy

When to induce?

Between 41+0 and 42+0

Methods of management and complications of prolonged pregnancy

What if the woman declines induction of labour?

Methods of management and complications of prolonged pregnancy

What if the women declines induction of labour?

- **Proper counselling**
- **Documentation**
- At least twice-weekly cardiotocography and ultrasound estimation of maximum amniotic pool depth

Methods of management and complications of prolonged pregnancy

Why offer induction of labour ?

Methods of management and complications of prolonged pregnancy

Why offer induction of labour ?

- **The stillbirth rate increases from 1 in 1000 at 37 weeks of gestation to 3 in 1000 at 42 weeks of gestation to 6 per 1000 at 43 weeks of gestation.**

“stripping/ sweeping” the amniotic membranes

“stripping/ sweeping” the amniotic membranes

Definition

Purpose

Risks / Benefits:

- **No increased risk of caesarean section**
- **Membrane sweep reduces the duration of pregnancy**
- **Membrane sweep reduces the frequency of pregnancy continuing beyond 41 and 42 weeks of gestation**
- **No increase in the risk of maternal or neonatal infection**
- **Discomfort during vaginal examination and other adverse effects (bleeding, irregular contractions**

Pre-induction assessment

- ★ **Women are admitted to the maternity unit at around term plus ten days.**

Pre-induction assessment

★ **Women are admitted to the maternity unit at around term plus ten days.**

History:
***Contraindications for vaginal delivery…**
***Prioritization**

Pre-induction assessment

★ **Women are admitted to the maternity unit at around term plus ten days.**

History:
***Contraindications for vaginal delivery…**
***Prioritization**

Physical examination:
***General**
***Vital signs**
***Abdominal examination**
***Bishop score (vaginal examination)**

Pre-induction assessment

★ **Women are admitted to the maternity unit at around term plus ten days.**

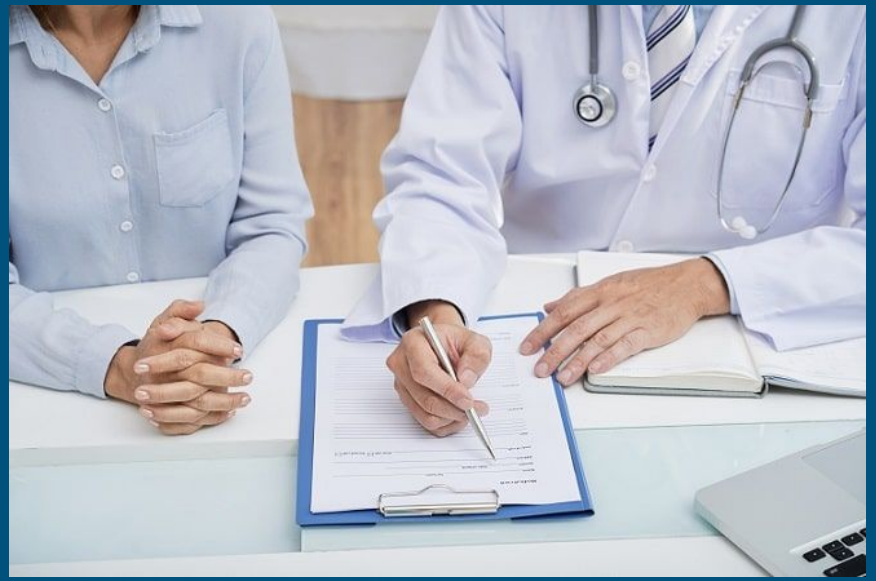
History:
***Contraindications for vaginal delivery…**
***Prioritization**

Physical examination:
***General**
***Vital signs**
***Abdominal examination**
***Bishop score (vaginal examination)**

Fetal well being:
***CTG**
***USS**

Issues in counselling around induction of labour

A. The reasons for induction
B. The method to be used
C. Any alternatives
D. Any potential risks and consequences of accepting or declining induction of labour.



and prolonged pregnancy

Hashem Yaseen

Post lecture test - Induction of labour and prolonged pregnancy

Dear students, after ending the lecture, please complete the following assessments on induction of labour and prolonged pregnancy. This will not consider in your evaluation. Go ahead... :)

*Required


and prolonged
Hashem Yaseen
- Induction of
and prolonge
Dear students, after ending the
ancy. This will not consider in y
ahead...
*Required

5:00

Questions?

www.linkedin.com/in/hashem-yaseen-88714b146