

# Normal labor



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# Normal labor Definition

Expulsion of single mature fetus present by vertex through normal birth canal with 24 hours without fetal or maternal complication ▶

It has 3 stages ▶

1<sup>st</sup> stage begin from the onset till complete dilatation of cervix ▶

2<sup>nd</sup> stage begin from full dilatation till expulsion of fetus ▶

3<sup>rd</sup> stage delivery of placenta ▶

# Theories of Labor

## **Hormonal factors: ▶**

*Progesterone withdrawal theory ▶*

*Prostaglandins theory ▶*

*Oxytocin ▶*

*Fetal cortisol theory, ▶*

## **Mechanical factor ▶**

# Signs of labor

*The show.*

*Dilatation of the cervix*, the normal rate of cervical dilatation in active phase is 1.2 cm/hour in primigravidae and 1.5 cm/hour in multiparae. If the rate is  $< 1$  cm / hour it is considered prolonged.

# The onset of labor

True labor pain ▶

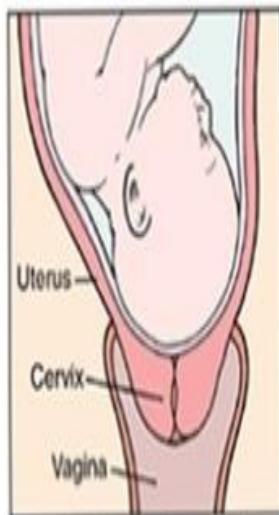
	True	False labor pain
	regular and increase gradually in strength, duration and frequency	Irregular & dose not increase in frequency & duration
	cervical dilatation and accompanied by hardening of the uterus	No cervical dilatation
	Do not relieve by sedation	Relive by sedation

# 1<sup>st</sup> stage of labor

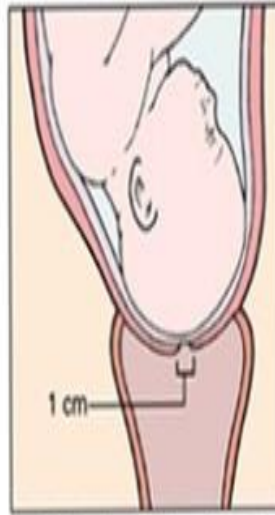
## The latent phase of labor

Mild irregular uterine contraction  
Softening and shortening the cervix

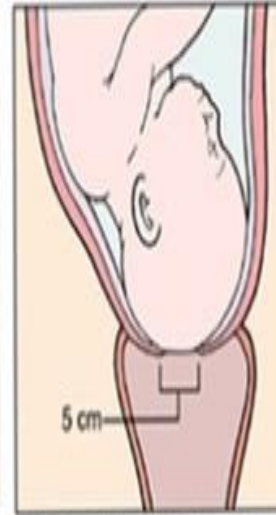
## Cervical Effacement and Dilatation During Labor



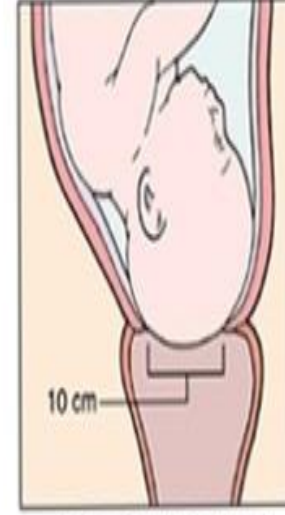
1. Cervix is not effaced or dilated.



2. Cervix is fully effaced and dilated to 1 cm.



3. Cervix is dilated to 5 cm.



4. Cervix is fully dilated to 10 cm.

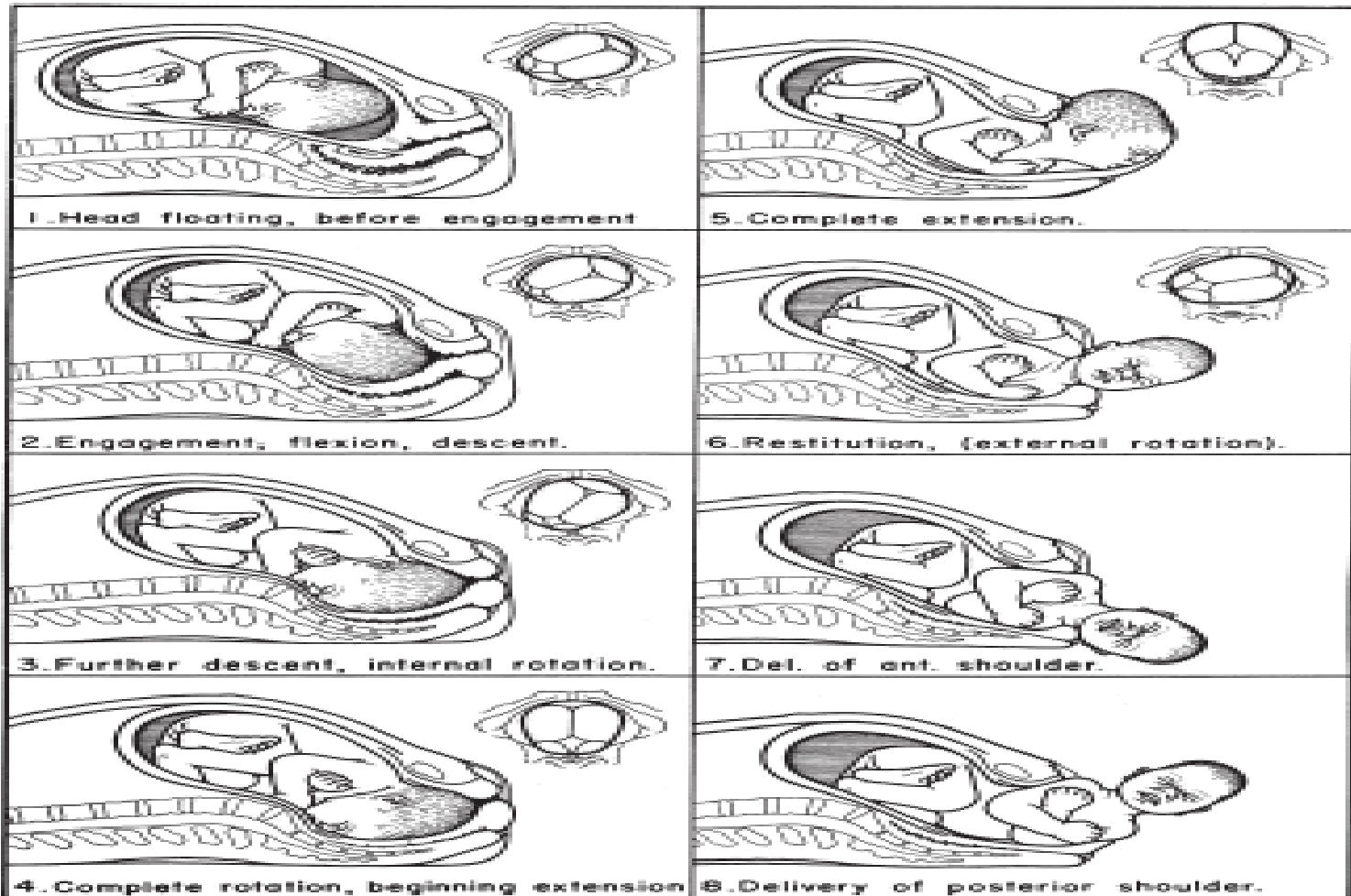


Active phase:

when the cervix is about 3 cm dilated

More strong contraction of uterus and rapid cervical dilatation

# 2<sup>nd</sup> stage of labor



# Mechanism of labor

*Engagement:*

*Descent:*

*Flexion:*

*Internal rotation*

*Extension*

*Restitution and external rotation*

*Expulsion*

# Labor pain

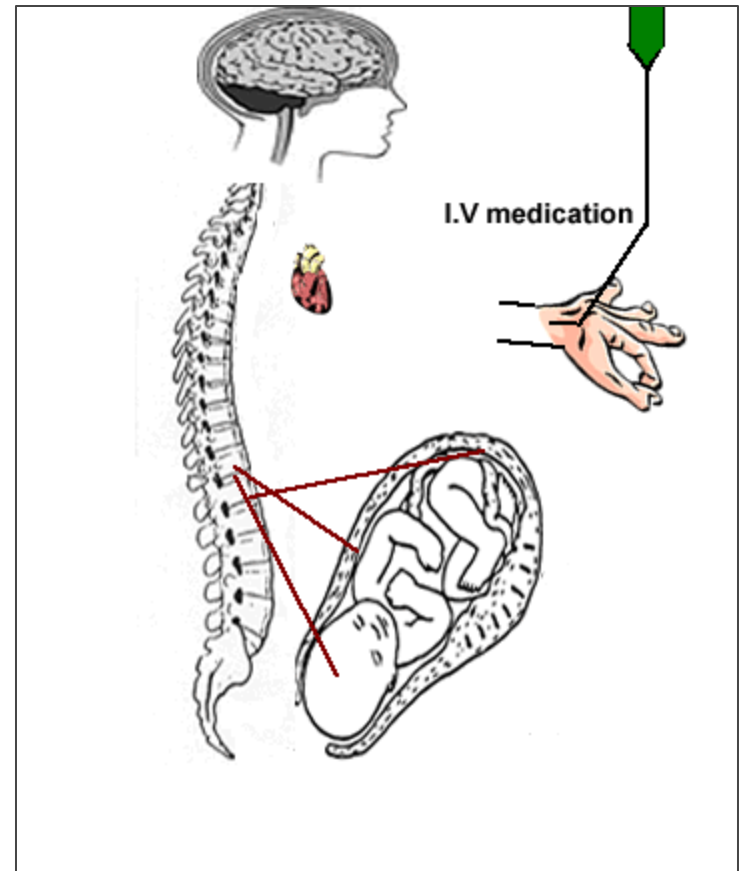
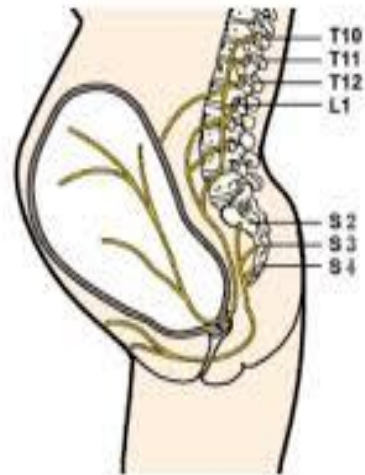
**In first stage** : the pain is visceral. The signal ▶  
enter the spinal cord after travelling in  
T10, T11, T12 and L1

And dermatom supplied by the same nerves ▶

**In second stage** : the pain is combination of ▶  
**visceral** from uterine contraction and cervical  
dilatation in addition to **somatic** pain  
produced by stretching of vagina , ligament

The pain is transmitted via S2,3,4 ▶  
and pressure on pelvic floor ▶

### Pain Pathways during Labor



# Adverse effect of labor pain

An increase in plasma catecholamines influences **uterine blood flow**

This **reduces the CO(2)** concentration in the blood , hyperventilation.

Pain-induced **sympathetic activation** will increase **cardiac output in** a way that may be deleterious in parturients with heart disease, eclampsia.

**slowing of gastric emptying** may cause nausea and vomiting,..

# Feature of labor pain

**intermittent, severe, and colicky;** it starts in the **lower abdomen and back**, spreading to the perineum and thighs., ▶

## Factor affect sensation of pain

1 – physical factor ▶

**Emotional :** ▶

Behavior ,  
culture and  
psychological support



# Intra partum management of labor

assume the **position** that she finds most comfortable.

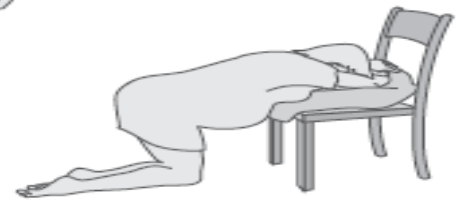
:

Periodic assessment

Monitoring the fetal heart rate  
Deep breathing exercise between uterine contraction,  
relaxation training.



Avoid if symptoms of SPD









**Avoid strain during 1<sup>st</sup>** stage to avoid genital prolapsed, once the **membrane rupture** the mother will be asked to lie down to avoid leakage of liquor amnii. If **firm massage on lumbar** region. **evacuate bladder every 2** hours and the rectum empty by enema







# Second stage of labor

the fetal heart rate should be monitored  
When the cervix is fully dilated **mother lie in lithotomy position and**  
Physical therapist ask **mother to costal breathing and bear down and relaxation between** contraction.  
**pausing breathing at crowning** to avoid laceration of perineum





# Non pharmacological approach

**1 – Psychological preparation/support (Psycho prophylaxis) in labor ▶**

▶  
mental and physical education of the parents ▶  
in childbirth preparation

# 2-Breathing values

assisting relaxation. ▶

\*Provide oxygen

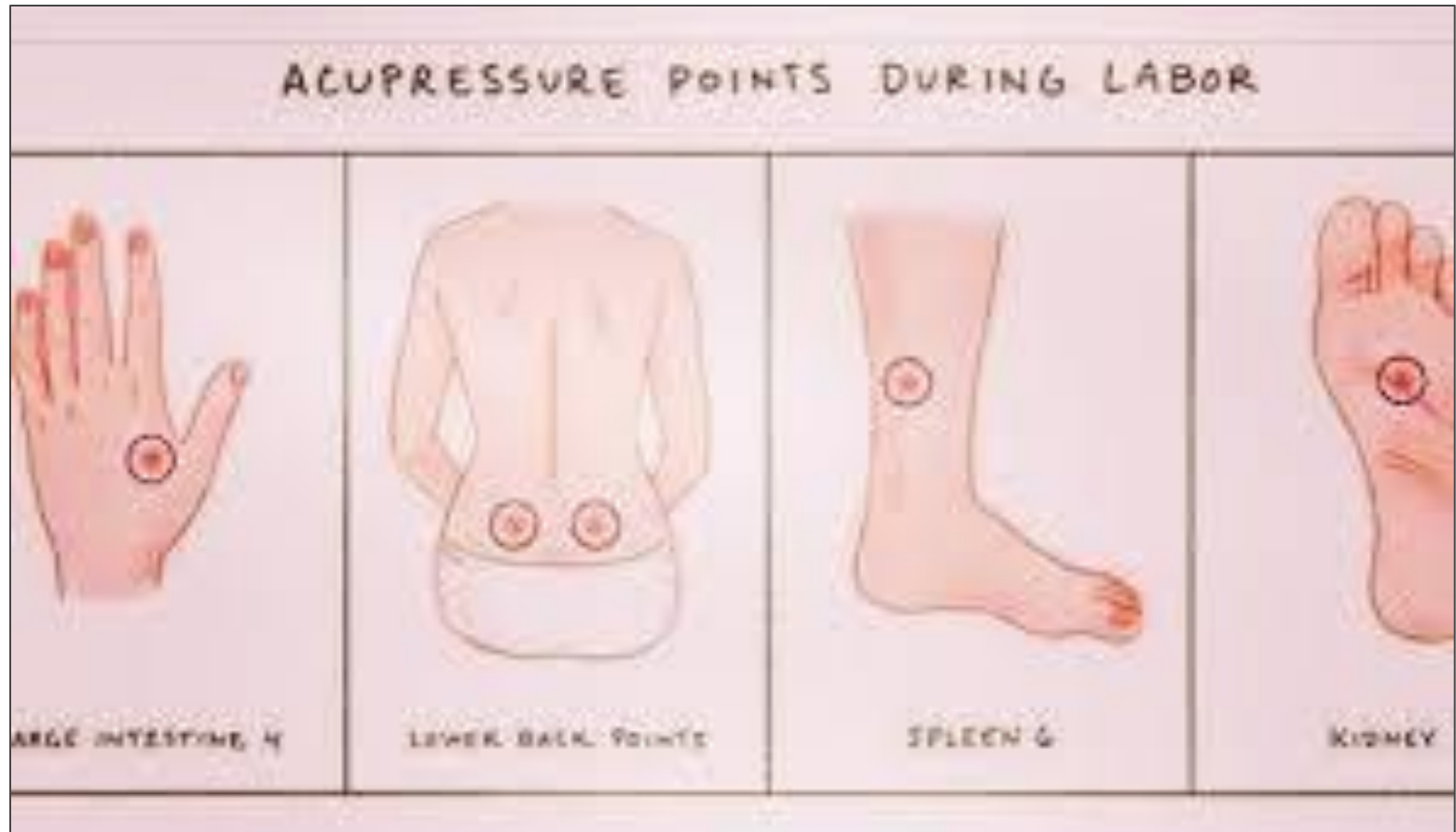
*Distraction*

# 3-Biofeed back In labor

Patient is trained to regulate certain physiological condition like muscle tension, blood pressure  
change body responses with the aid of electronic instruments express in signals (visual or color)



# 4- acupuncture & acupressure





# 5- relaxation technique

\*conserver energy

Reduce mental stress & anxiety

Increase the pain threshold

# Transcutaneous electrical nerve stimulation (TENS) in labor

- ▶ *1<sup>st</sup> stage of labor*
- ▶ Application of electrodes are bilateral on vertebral Column at level of T10– L1 and on sacral area at level S2–S4.
- ▶
- ▶ *2nd stage of labor*
- ▶ The distal electrodes are transferred to on the anterior aspect of lower abdomen



# Values of postpartum exercises

## Prophylactic ▶

1 – Diminish respiratory and circulatory ▶

Complication ▶

To guard against pelvic floor dysfunction ▶

## Curative ▶

1 – restore muscle tone ▶

2 – re educate posture sense ▶

3 – help excretion ▶

4 – Help involution of uterus ▶

## Lacational ▶

1 – to improve lactation by improve blood ▶  
supply to the breast

2 – to prevent sagging of breast ▶

# Post partum exercises

## First day ▶

Breathing and circulatory exercises ▶



Relaxation on face ▶



Static abdominal exercises ▶

Relaxation on face

Prone lying position with pillow under pelvis  
And both hands under her head for 10–20  
minutes

Value of daily time rest

1 – relaxed position

2– help involution of uterus

3– prevent retroversion retro flexion of uterus

4– decrease after pains

5– help in discharge of lochia

## Second day ▶

Leg exercises , ▶  
arm exercises and ▶  
pelvic floor exercises ▶



**Third day ▶**

Pelvic rocking exercises ▶

**Fourth day ▶**

Hip shrugging ▶

Pelvic rotation ▶

Postural correction ▶

**Fifth day ▶**

From the fifth day begin abdominal ▶  
exercises gradually;

## Quiz (2)

What are the Intrapartum ▶  
management of labor

