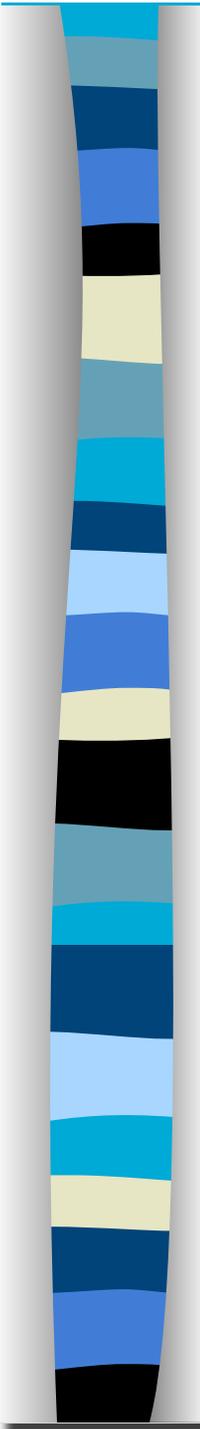


47a A&P: Pregnancy

47a A&P: Pregnancy

Class Outline



5 minutes

Attendance, Breath of Arrival, and Reminders

10 minutes

Lecture:

25 minutes

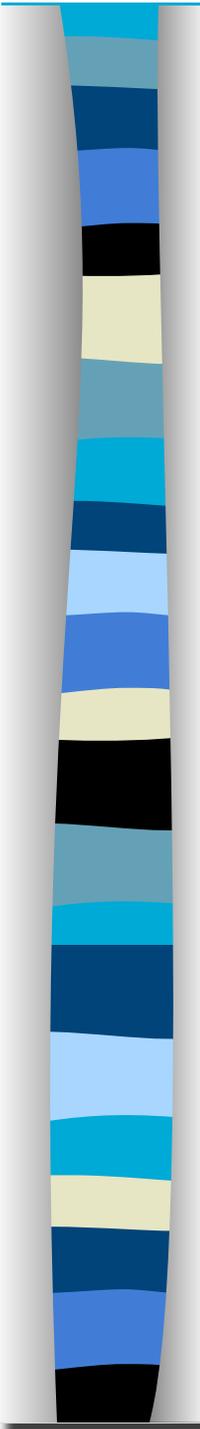
Lecture:

15 minutes

Active study skills:

60 minutes

Total



47a A&P: Pregnancy

Class Reminders

Early Warning:

- By class 63b, you must be signed-up for and logged into MassagePrep.com
- See the receptionist to get a TLC discount

Assignments:

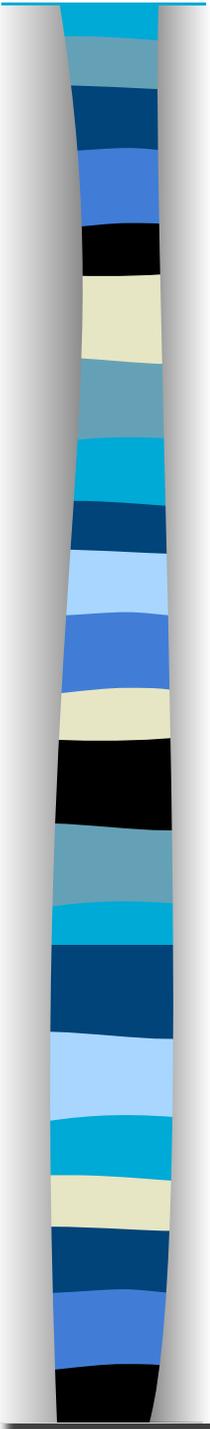
- 50b Business: Marketing - It is recommended that you watch the webinar listed in the Class Schedule.
- 53a Internship Orientation Review Questions (due before class starts)
- 55a Review Questions (due before class starts)

Quizzes:

- 51b Kinesiology Quiz (brachialis, brachioradialis, flexor digitorum superficialis, and extensor digitorum)

Preparation for upcoming classes:

- 48a A&P: Nervous System - Introduction, Physiology, and Cells
 - Trail Guide: brachioradialis
- 48b Side-lying and Pregnancy Massage: Technique Review and Practice
 - Bring 2 pillows (standard size)
 - Bring 4 pillowcases (standard size)



Classroom Rules

Punctuality - everybody's time is precious

- Be ready to learn at the start of class; we'll have you out of here on time
- Tardiness: arriving late, returning late after breaks, leaving during class, leaving early

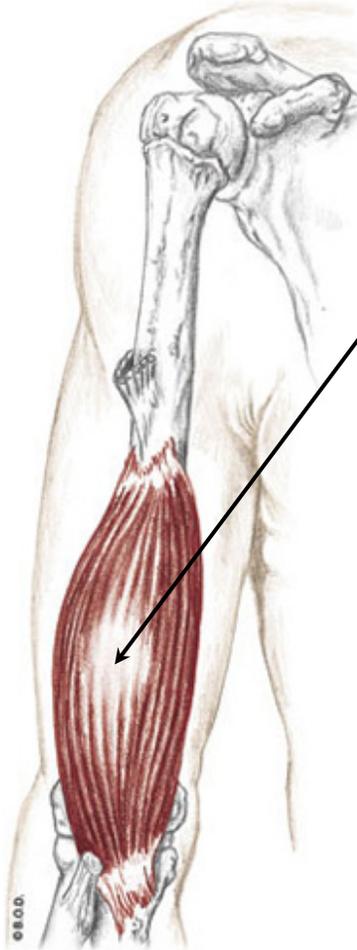
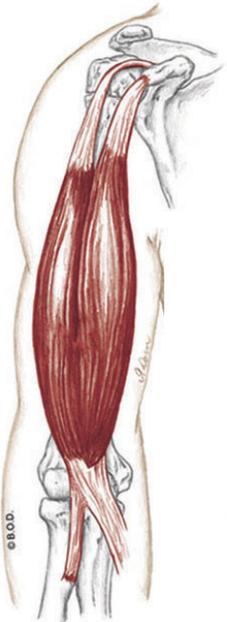
The following are not allowed:

- Bare feet
- Side talking
- Lying down
- Inappropriate clothing
- Food or drink except water
- Phones that are visible in the classroom, bathrooms, or internship

You will receive one verbal warning, then you'll have to leave the room.

Brachialis

Trail Guide, Page 132



Anterior View

Brachialis is a strong elbow flexor that lies deep to biceps brachii on the anterior arm.

The girth of brachialis helps the biceps to bulge out from the arm.

Similar to the relationship between gastrocnemius and soleus, the lateral edge of brachialis is superficial and palpable.

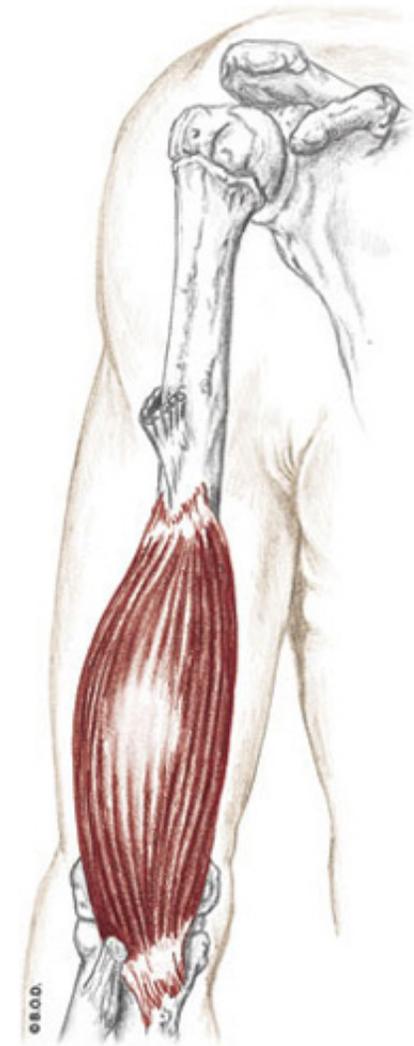
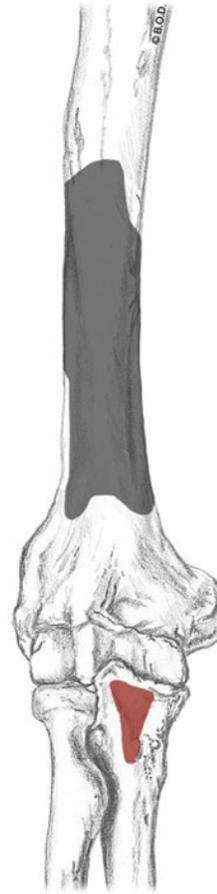
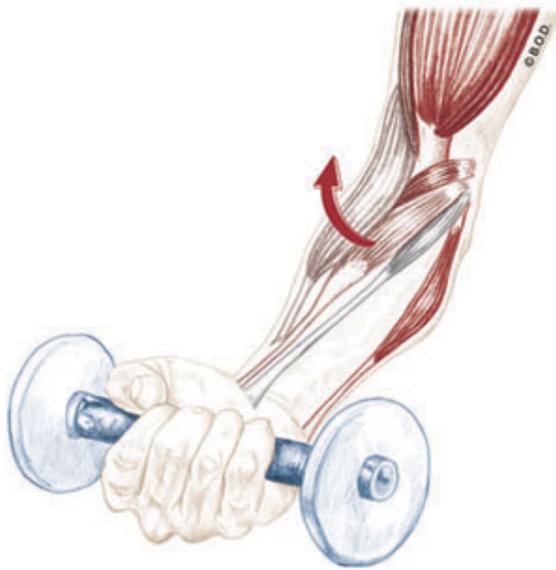


Anterior View

Brachialis, page 132

- A** Flex the elbow (humeroulnar joint)
- O** Distal half of anterior surface of humerus
- I** Tuberosity of the ulna

Coronoid process of the ulna



Anterior View

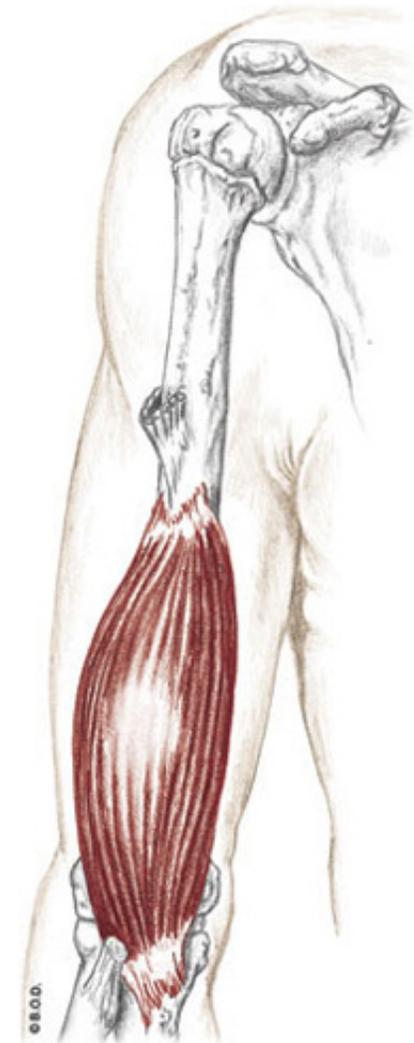
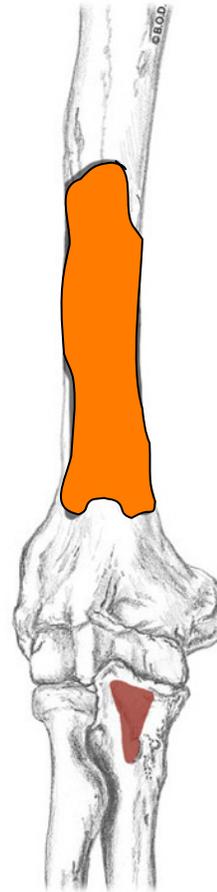
Brachialis, page 132

A Flex the elbow (humeroulnar joint)

O Distal half of anterior surface of humerus

I Tuberosity of the ulna

Coronoid process of the ulna

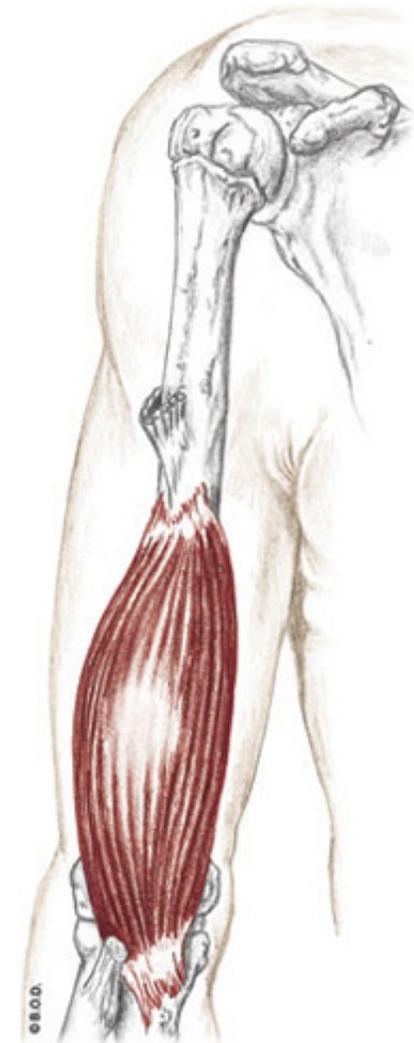
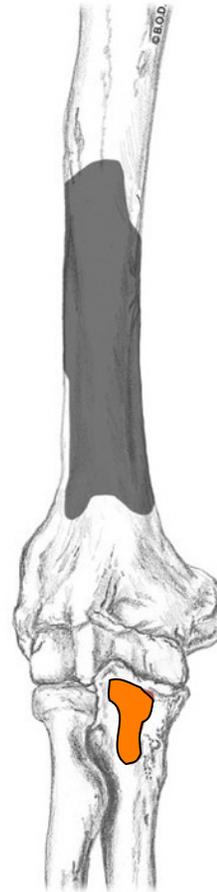
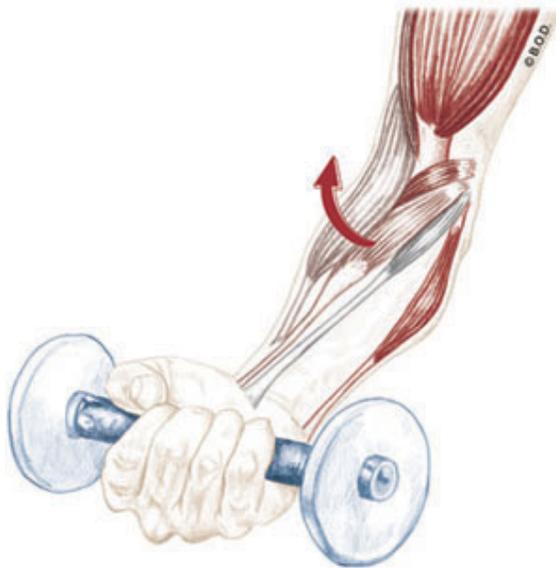


Anterior View

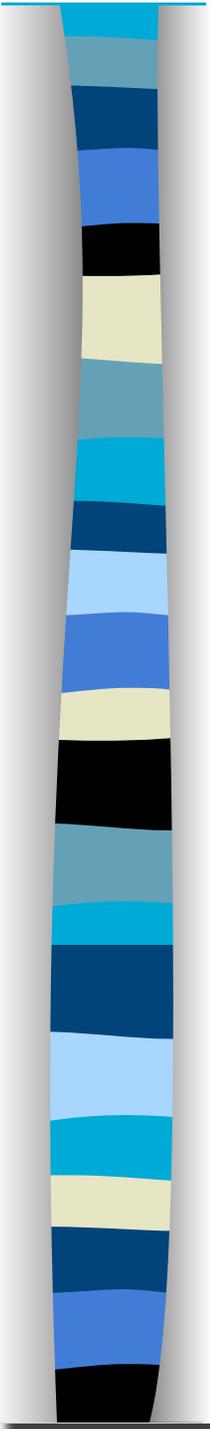
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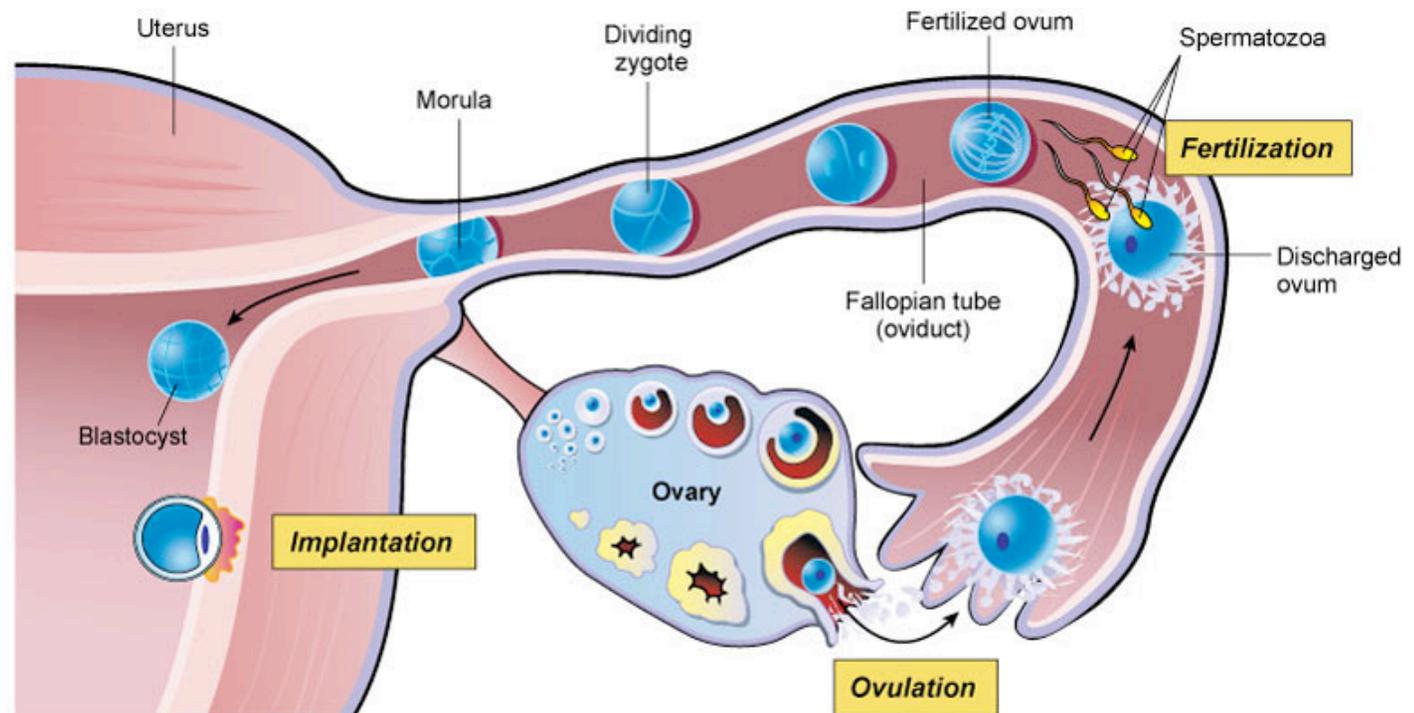


47a A&P: Pregnancy

Packet E-89

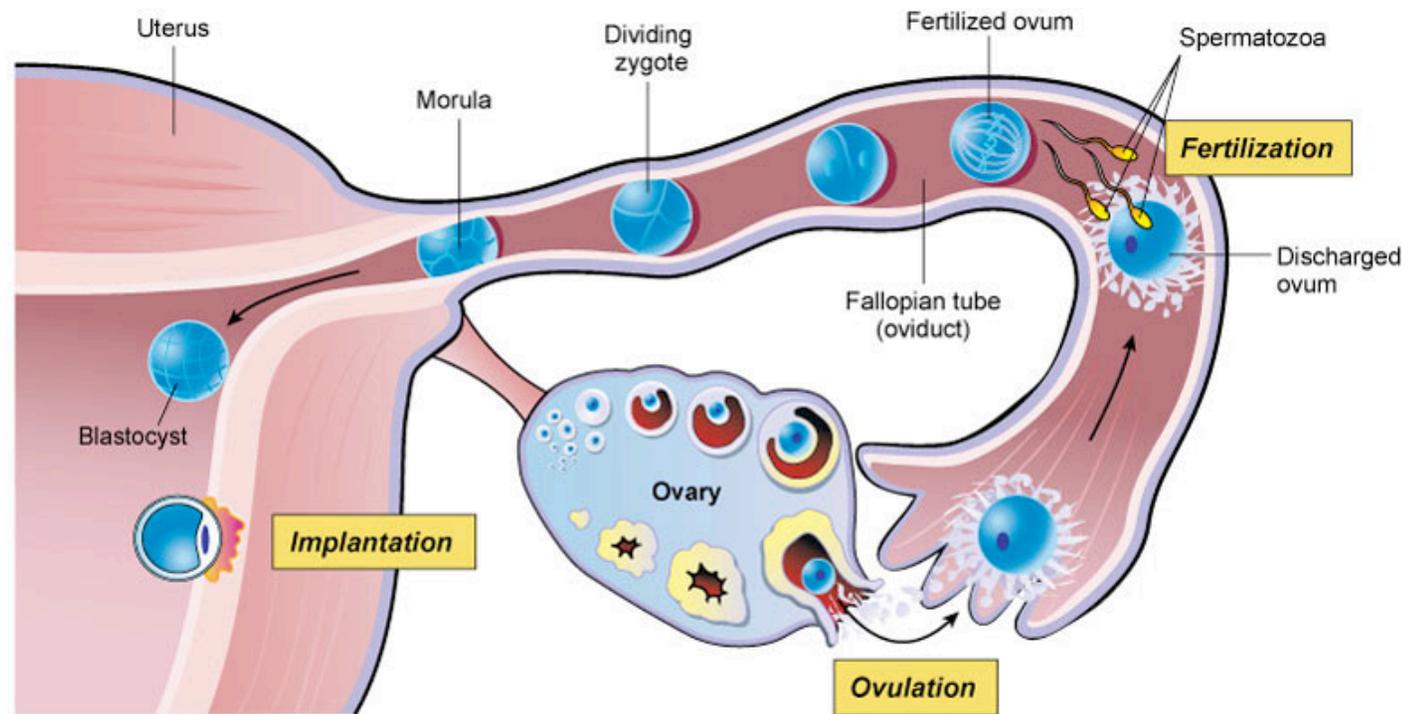
Fertilization

Fertilization Penetration of the ovum by a spermatozoon about 24 hours after ovulation resulting in a zygote.



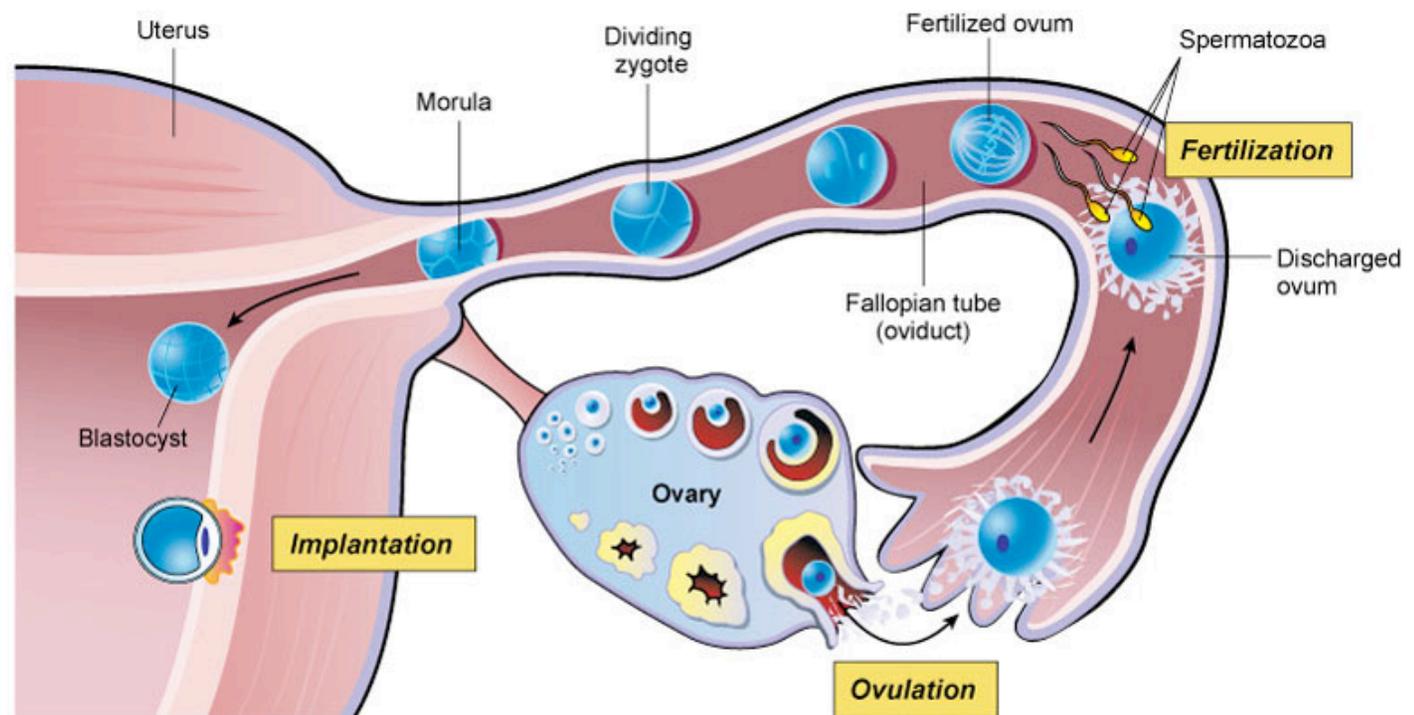
Fertilization

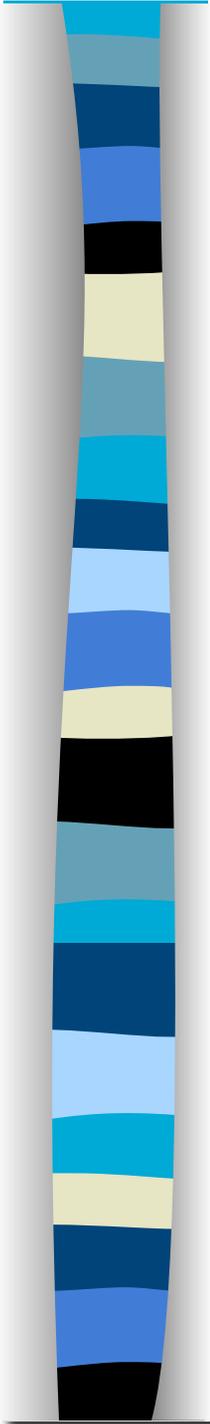
Zygote Fertilized ovum. Contains genetic information from each parent.



Fertilization

Blastocyst A zygote that has undergone multiple cell divisions and transformation from a solid mass to a hollow fluid-filled ball of cells.



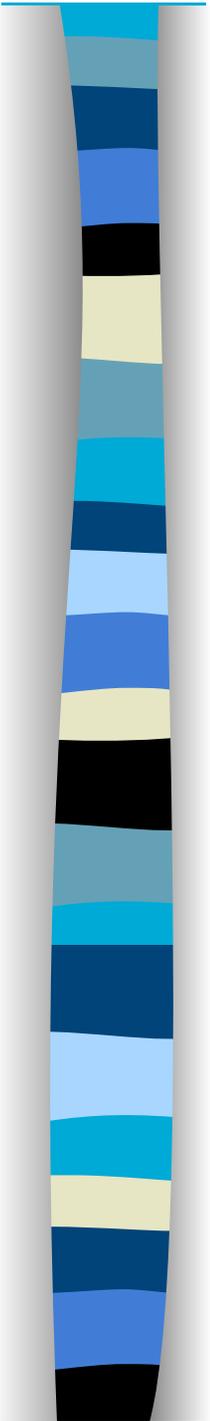


Response Moment

Fertilization

Zygote

Blastocyte

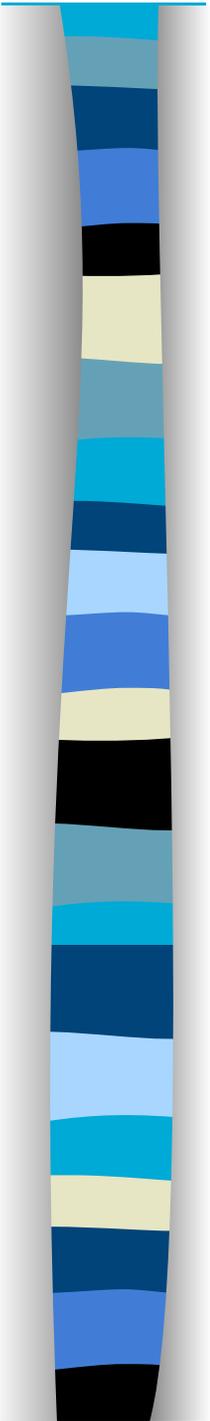


Response Moment

Fertilization Penetration of the ovum by a spermatozoon.

Zygote

Blastocyte

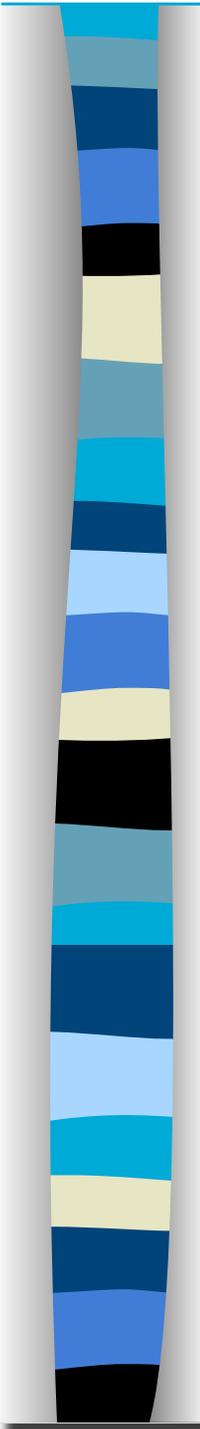


Response Moment

Fertilization Penetration of the ovum by a spermatozoon.

Zygote Fertilized ovum.

Blastocyte



Response Moment

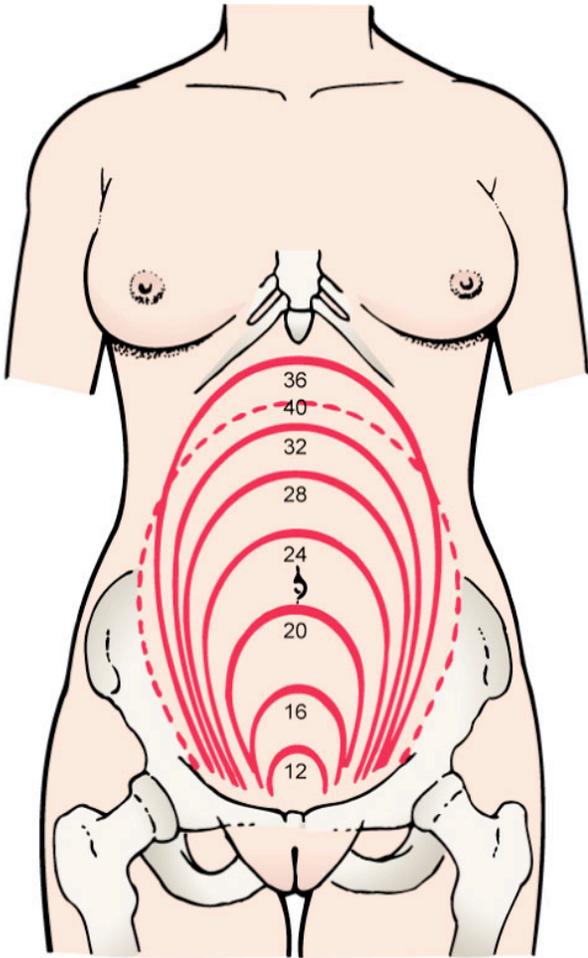
Fertilization Penetration of the ovum by a spermatozoon.

Zygote Fertilized ovum.

Blastocyst Zygote that has undergone multiple cell divisions.

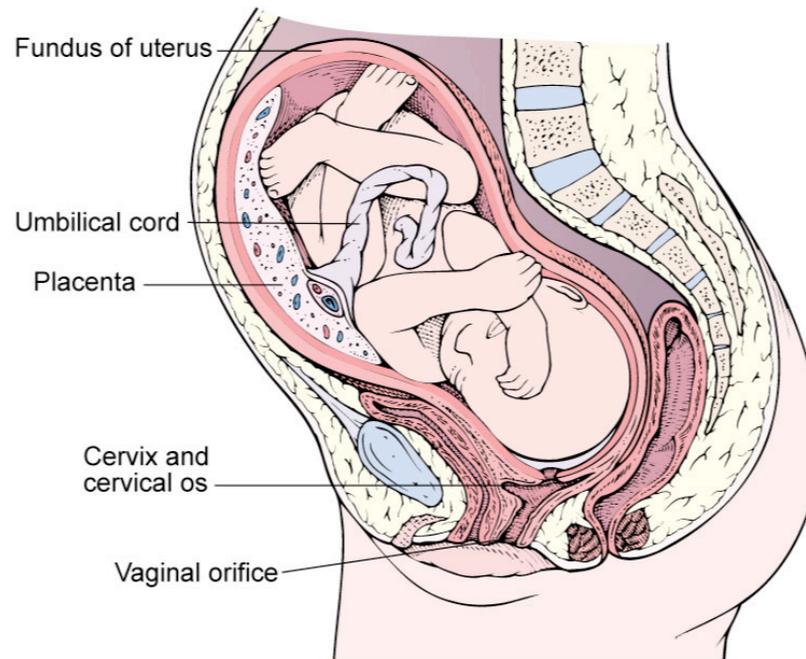
Pregnancy

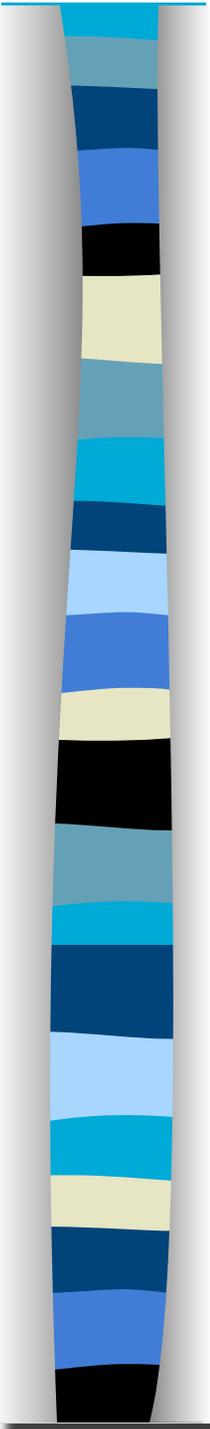
- Pregnancy
- First trimester
- Second trimester
- Third trimester
- Lactation



Pregnancy

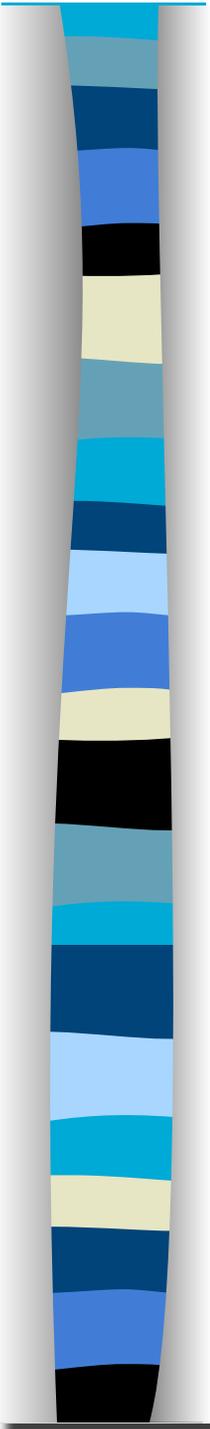
Pregnancy Sequence of events that includes implantation, embryonic and fetal growth and ends with birth. This process of gestation takes about 266 days and is divided into 3 trimesters.





Pregnancy

First trimester Trimester in which the most embryonic development occurs and the pregnant woman experiences few structural changes. Developments include: 3 primary germ layers, head and tail shape, G.I. tract, brain, heart, and placenta.



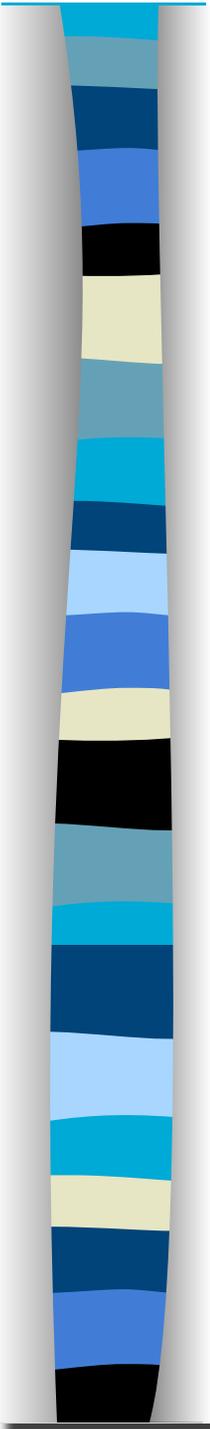
Pregnancy

Second trimester Trimester in which the mother begins to “show”. By the end of this trimester the mother should feel the baby move. The former embryo is now a fetus and grows to approximately 11 inches in length and weighs about 1.5 lb.

Pregnancy

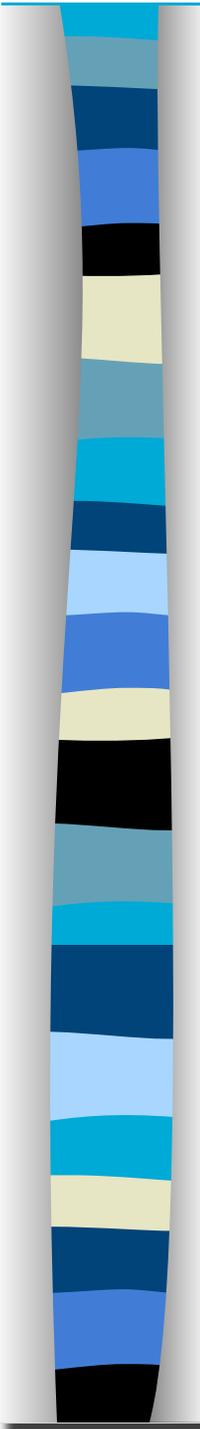
Third trimester Trimester in which the mother-to-be finds herself heavy with the baby and postural changes are evident. The fetus grows to about 20 inches in length and between 5 and 9 lbs. in weight. The mother may experience occasional, preparatory contractions in which the uterus hardens and then returns to normal. The early form of breast milk, colostrum, may leak from the breasts.





Pregnancy

Lactation Secretion and ejection of milk by the mammary glands. Facilitated by the pituitary hormones prolactin for milk production and oxytocin for milk expression.



Response Moment

Pregnancy Implantation, embryo growth, fetus growth, and birth.

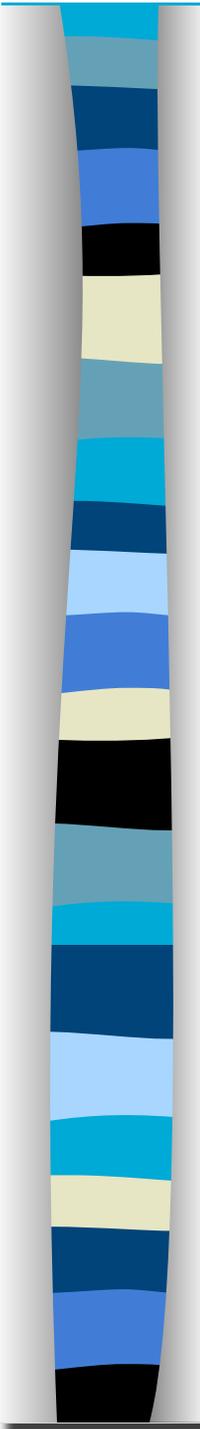
approximately 266 days or 38 weeks, divided into 3 trimesters.

First Trimester

Second Trimester

Third Trimester

Lactation



Response Moment

Pregnancy Implantation, embryo growth, fetus growth, and birth.

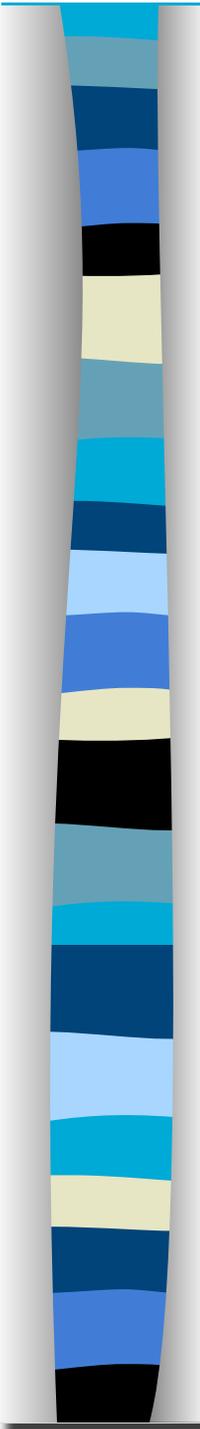
approximately 266 days or 38 weeks, divided into 3 trimesters.

First Trimester Lots of embryo development. 3 primary germ layers develop.

Second Trimester

Third Trimester

Lactation



Response Moment

Pregnancy Implantation, embryo growth, fetus growth, and birth.

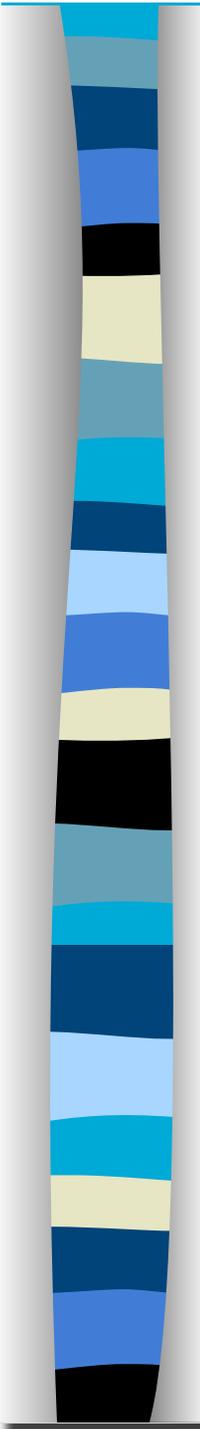
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First Trimester Lots of embryo development. 3 primary germ layers develop.

Second Trimester Mother begins to show. Embryo is now a fetus.

Third Trimester

Lactation



Response Moment

Pregnancy Implantation, embryo growth, fetus growth, and birth.

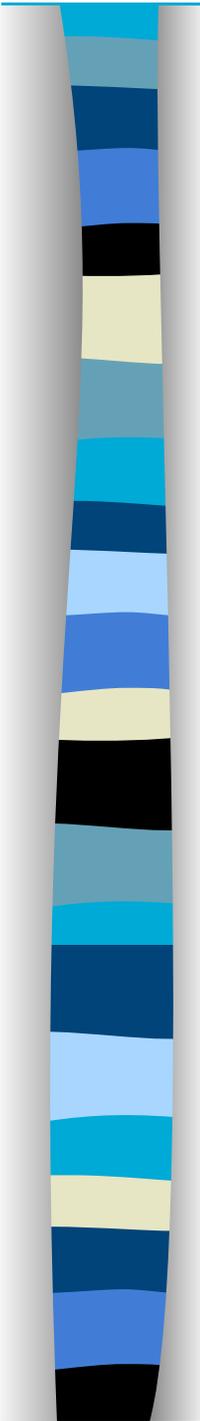
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First Trimester Lots of embryo development. 3 primary germ layers develop.

Second Trimester Mother begins to show. Embryo is now a fetus.

Third Trimester Heavy with baby. Lots of postural changes. Braxton-Hicks contractions and colostrum.

Lactation



Response Moment

Pregnancy Implantation, embryo growth, fetus growth, and birth.

approximately 266 days or 38 weeks, divided into 3 trimesters.

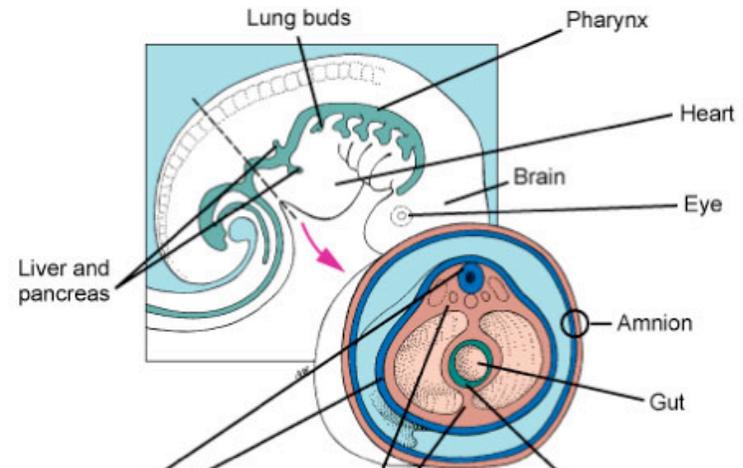
First Trimester Lots of embryo development. 3 primary germ layers develop.

Second Trimester Mother begins to show. Embryo is now a fetus.

Third Trimester Heavy with baby. Lots of postural changes. Braxton-Hicks contractions and colostrum.

Lactation Pituitary hormones trigger milk production (prolactin) and milk expression (oxytocin).

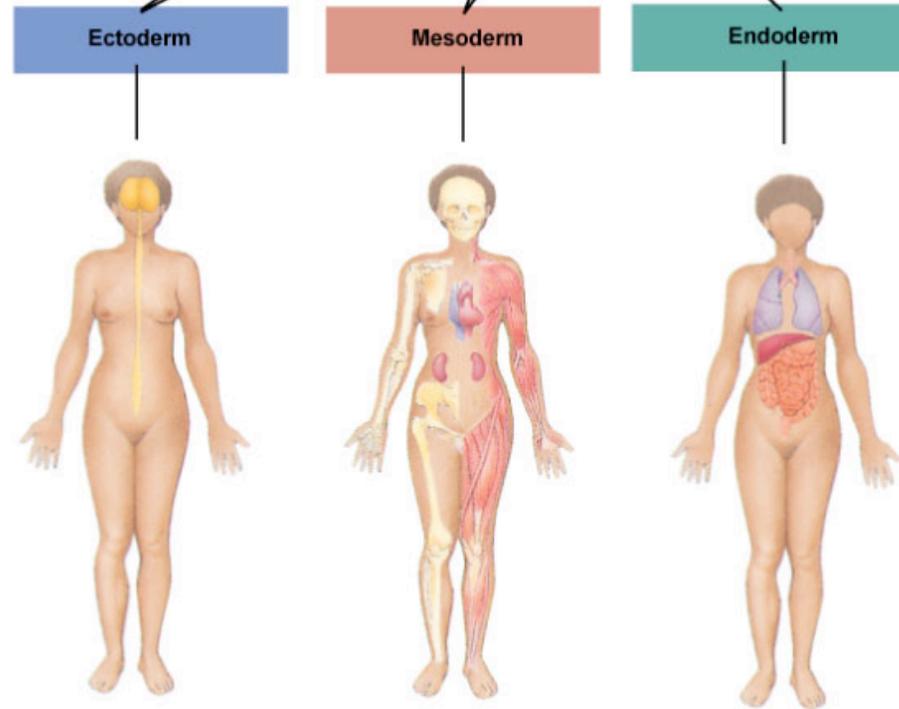
Germ Layers



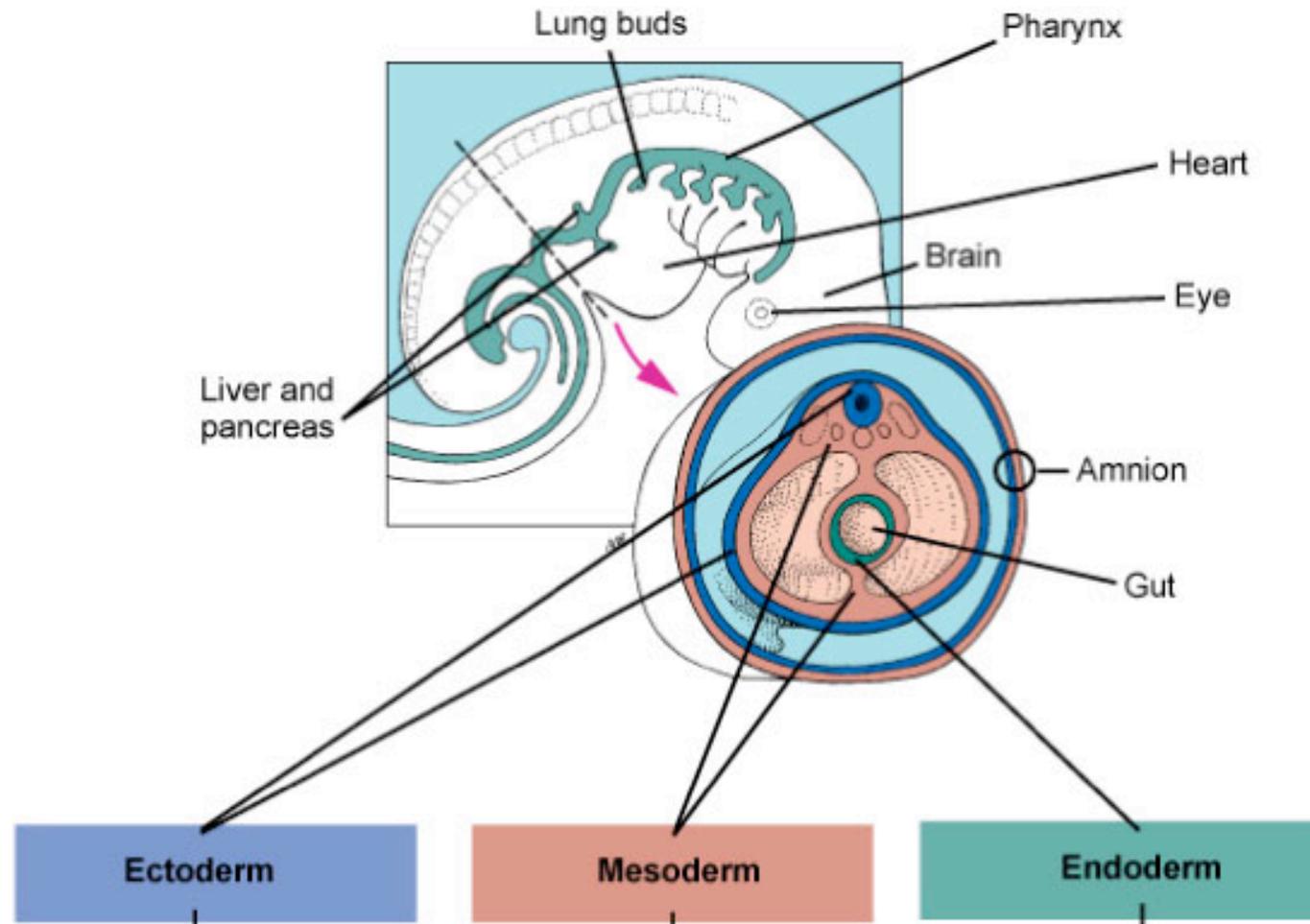
Ectoderm

Mesoderm

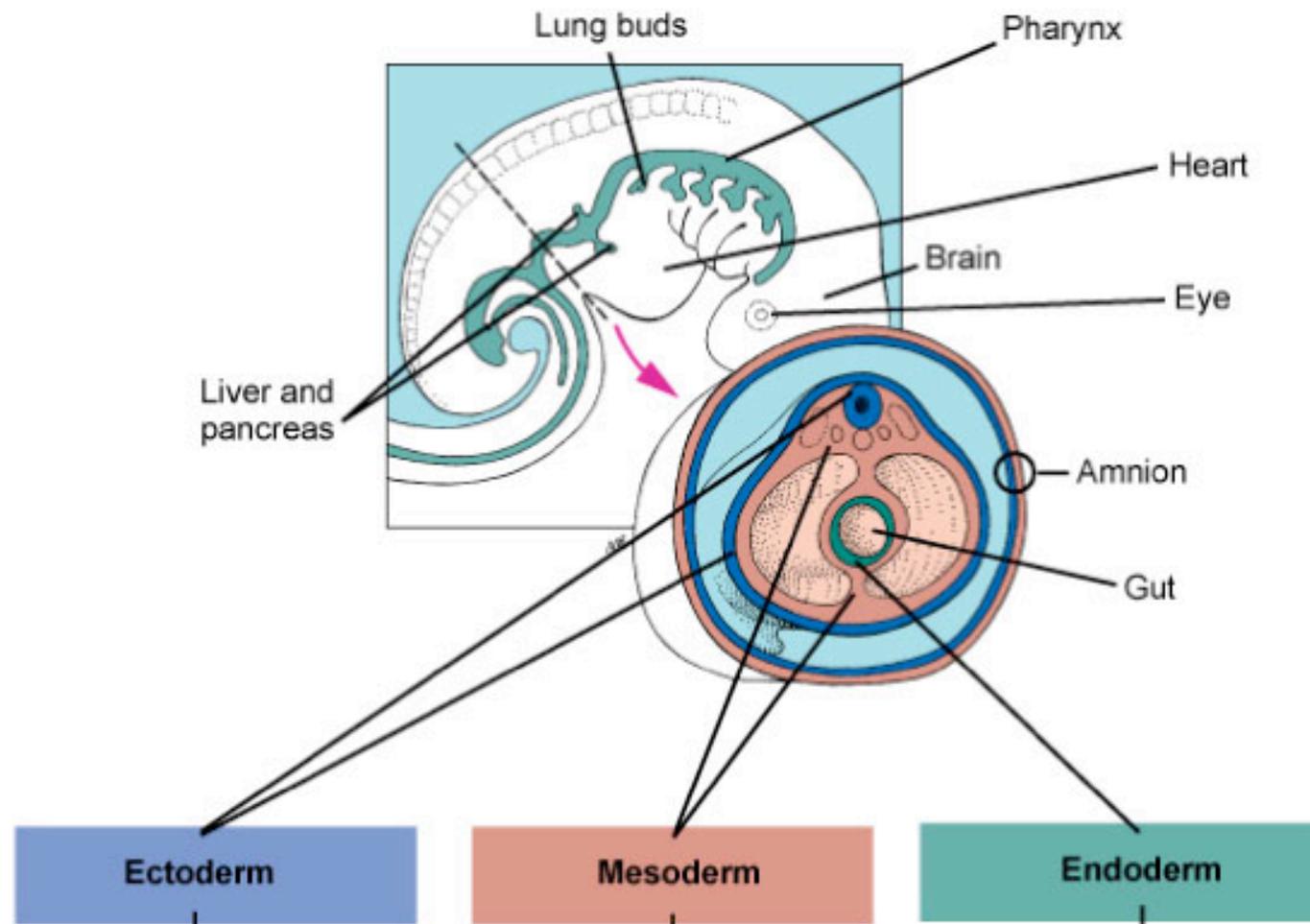
Endoderm



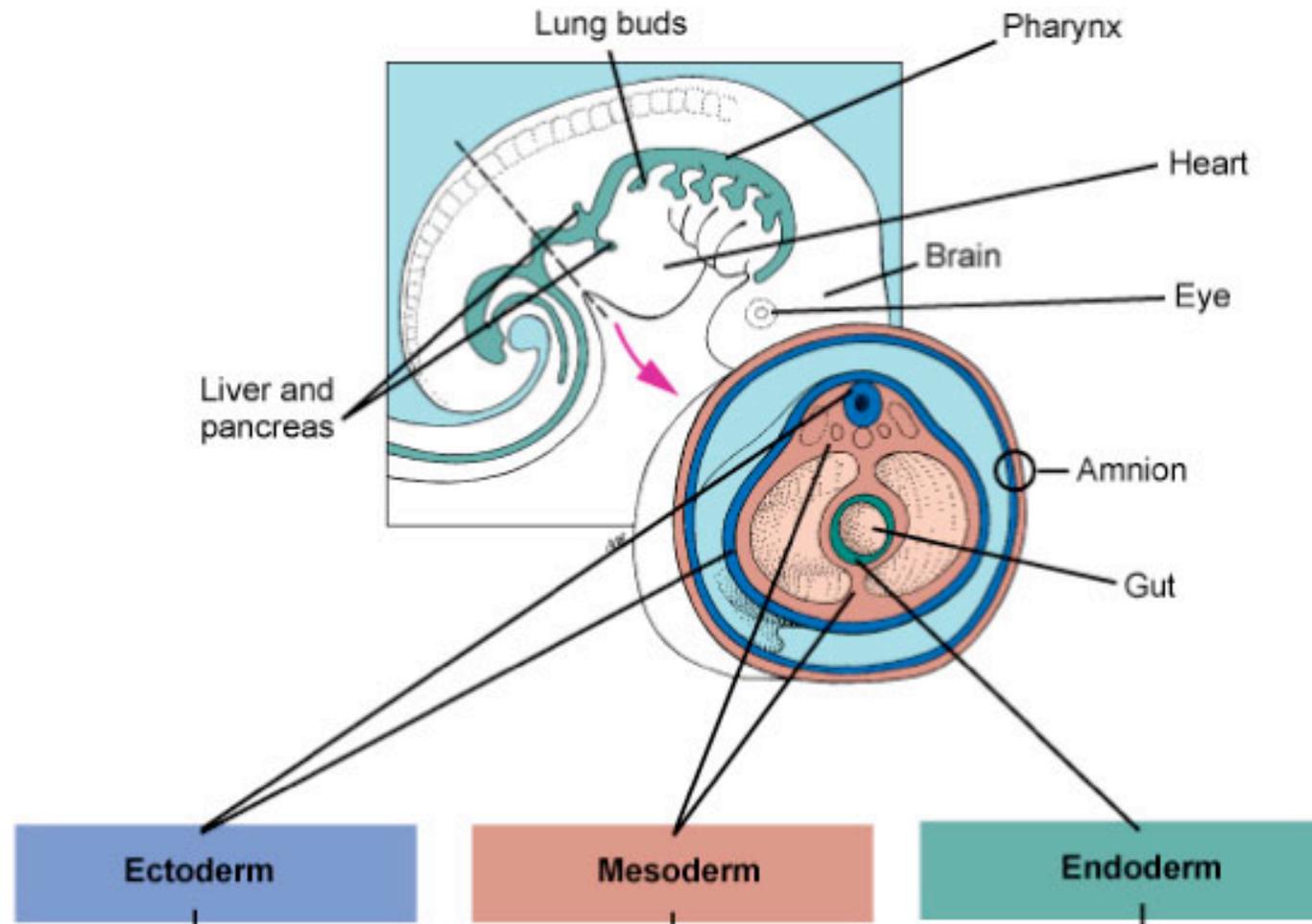
Ectoderm Outermost germ layer that gives rise to the nervous system including the special senses (retina, taste buds, olfactory bulb, inner ear), mucosa of the mouth and anus, epidermis of the skin, fingernails, hair, skin glands, and pituitary.

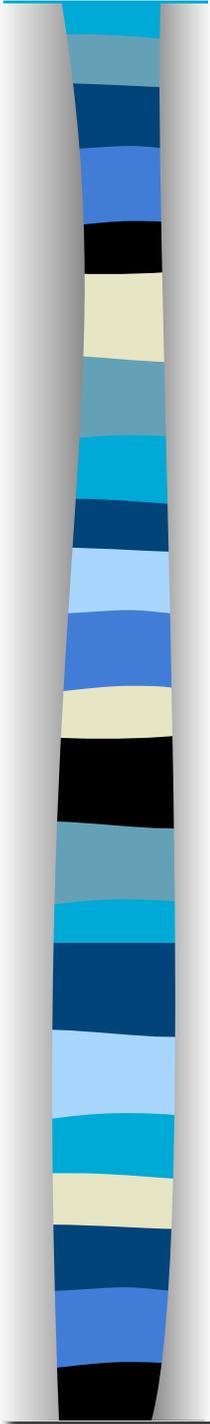


Mesoderm Middle germ layer that gives rise to the muscles and connective tissues such as fascia, tendons, retinaculum, ligaments, cartilage, bone, mesenteries, dermis, hypodermis, blood, lymph, related vessels, pleurae, pericardium, peritoneum, and urogenital tract.



Endoderm Innermost germ layer that gives rise to the lining of the gastrointestinal tract, lining of the respiratory passages, and most tissues of organs and glands.



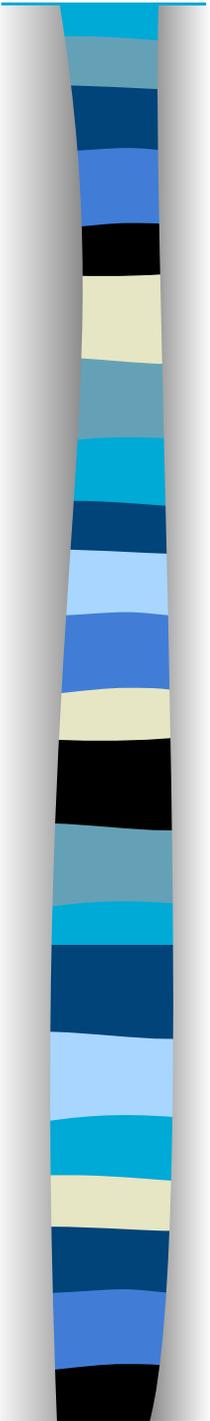


Response Moment

Ectoderm

Mesoderm

Endoderm



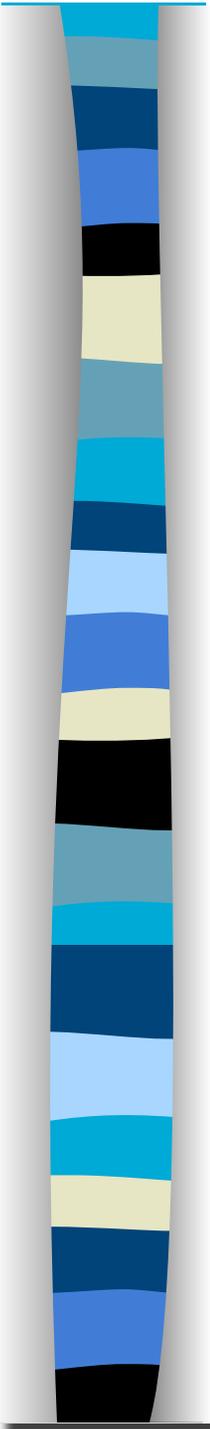
Response Moment

Ectoderm Outermost germ layer.

Nervous system, special senses, epidermis, and mucosa.

Mesoderm

Endoderm



Response Moment

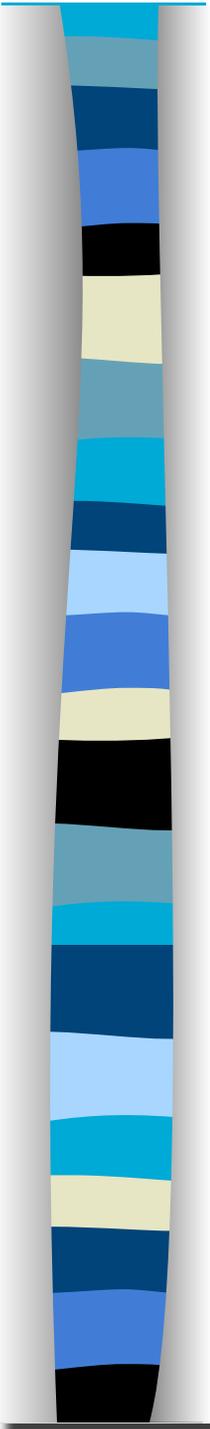
Ectoderm Outermost germ layer.

Nervous system, special senses, epidermis, and mucosa.

Mesoderm Middle germ layer.

Muscles and connective tissues (fascia, tendon, ligament, bone blood, lymph, vessels, serous membranes, dermis, and hypodermis).

Endoderm



Response Moment

Ectoderm Outermost germ layer.

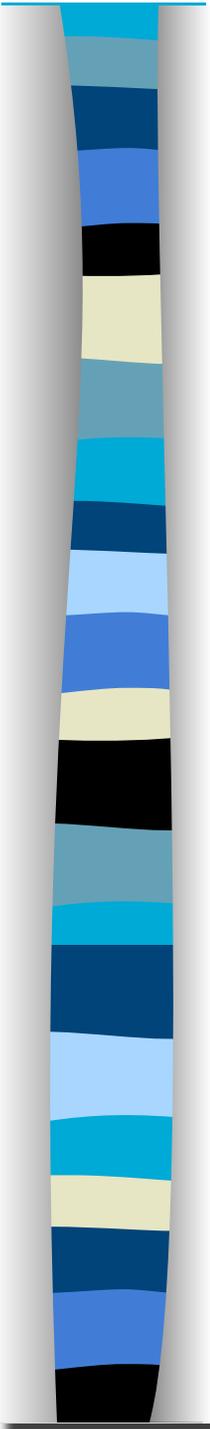
Nervous system, special senses, epidermis, and mucosa.

Mesoderm Middle germ layer.

Muscles and connective tissues (fascia, tendon, ligament, bone blood, lymph, vessels, serous membranes, dermis, and hypodermis).

Endoderm Innermost germ layer.

Lining of G.I. tract and respiratory tract. Coverings for most organs and glands.

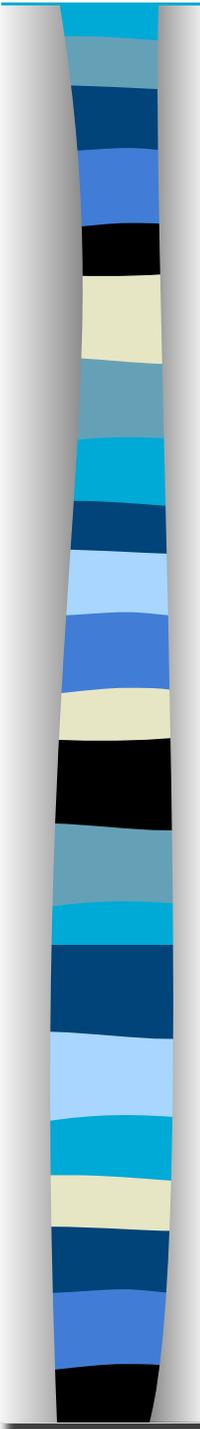


Introduction

Therapists will encounter unique individuals with special needs and some physical, emotional, and health-related challenges.

Massage is safe during all stages of life if tailored to the client's health and particular situation and circumstance.

Modifications might involve placing a client in advanced pregnancy on her side.



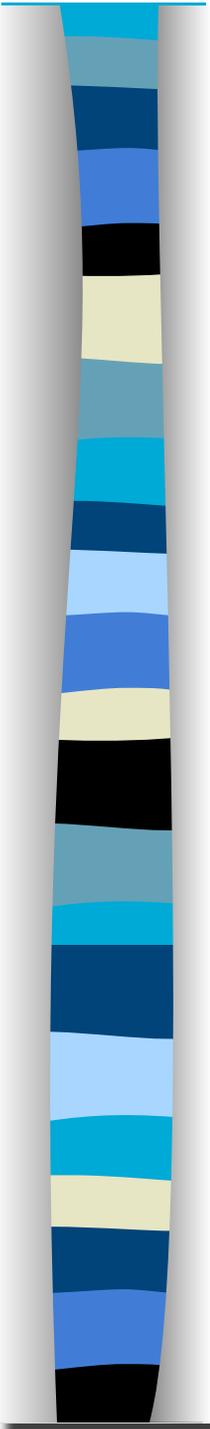
General Suggestions

When your client mentions his or her special need or disability when making an appointment, spend time **preparing for the session.**

The best source of **information comes from the client.**

Each situation will be different, and you must be willing to **be open-minded, patient, tolerant, and flexible.**

Each client will teach you, if you are willing to listen and learn.



Pregnant Clients

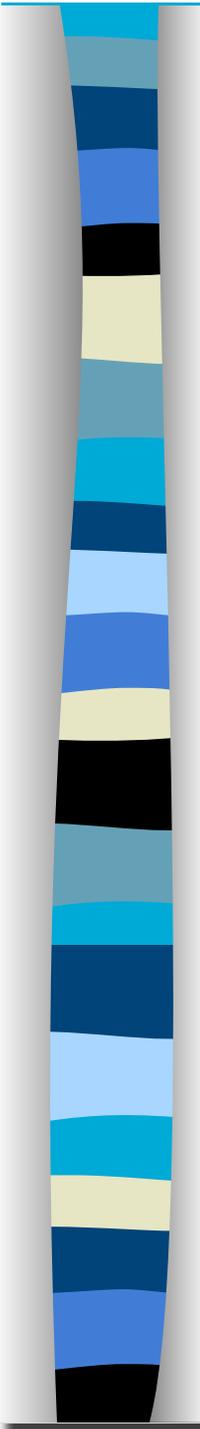
Benefits of Massage for Pregnant Clients

Precaution for all Trimesters

Massage in the First Trimester

Massage in the Second Trimester

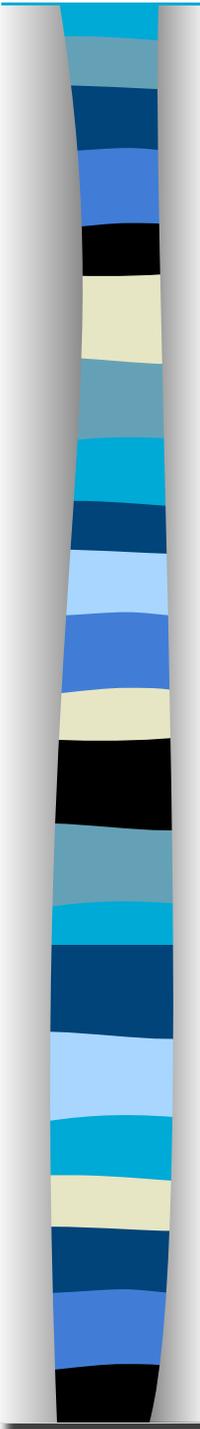
Massage in the Third Trimester



Benefits of Massage for Pregnant Clients

Pregnancy massage has many benefits for the expectant mother:

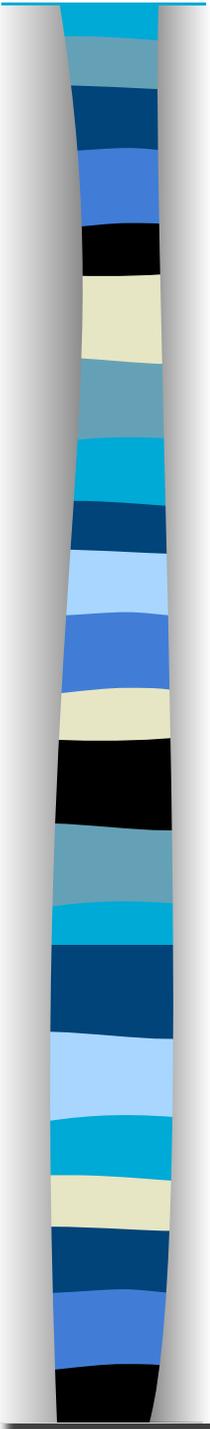
- Reduce stress
- Decrease swelling in the arms and legs
- Relieve aches and pains in muscles and joints
- Reduce anxiety and depression



Precaution for all Trimesters

If client has severe abdominopelvic pain, cramping, or vaginal bleeding:

- Seek immediate medical attention
- Medical clearance is needed with subsequent massage

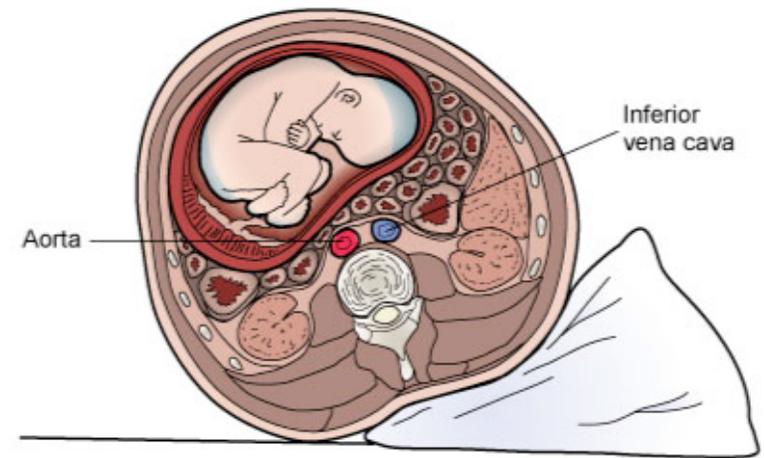


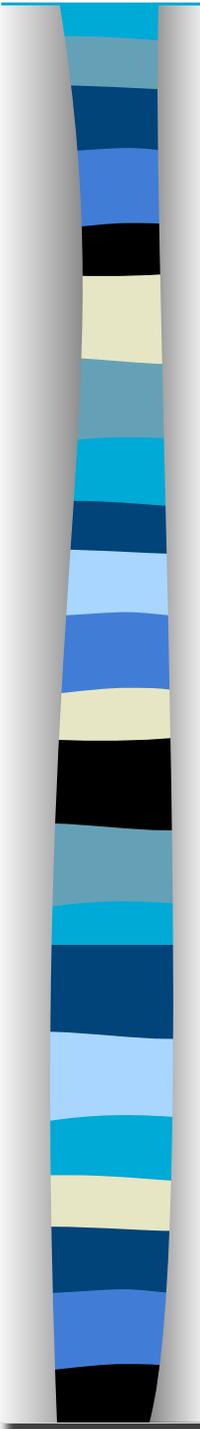
Massage in the First Trimester

Massage is safe during this 14 week long period.

Massage in the Second Trimester

- As the client's body changes, the pregnancy begins to show
- Pressure on blood vessels occurs when she is lying supine
- A small foam wedge or pillow under her right hip tilts her abdomen just enough to move the baby off the abdominal blood vessels



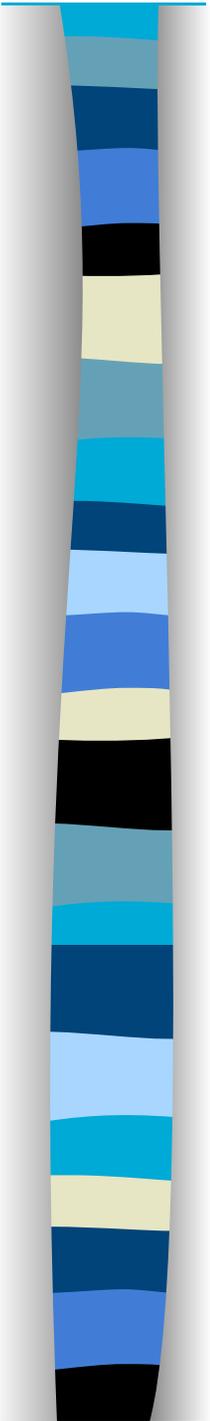


Massage in the Third Trimester

- Baby's growth is greater
- Postural changes in the mother are evident
- Use positional and technique modifications listed below as needed
- Mother may notice occasional, preparatory, or Braxton Hicks contractions in which the uterus contract and then relaxes
- Colostrum, the early form of breast milk, may leak from the breasts resulting in many women leaving on their bras during massage

Response Moment





General suggestions for pregnant clients

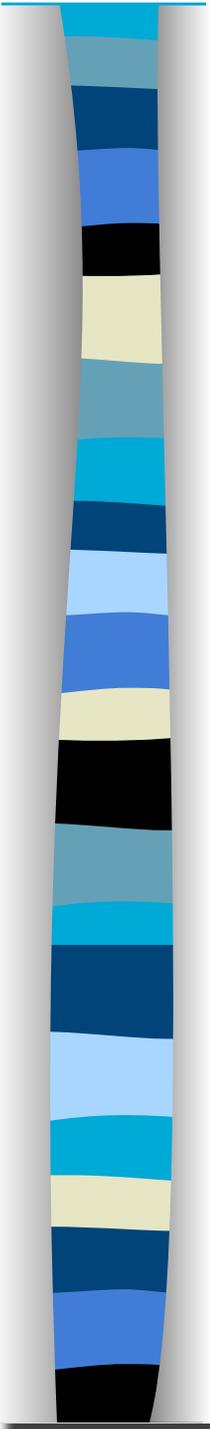
Situations addressed by massage for pregnant clients

Precautions for all Trimesters

First trimester precautions

Second trimester precautions

Third trimester precautions



General suggestions for pregnant clients Prepare in advance. Listen carefully while the client tells you how SHE is experiencing pregnancy. Be open-minded, patient, tolerant, and flexible.

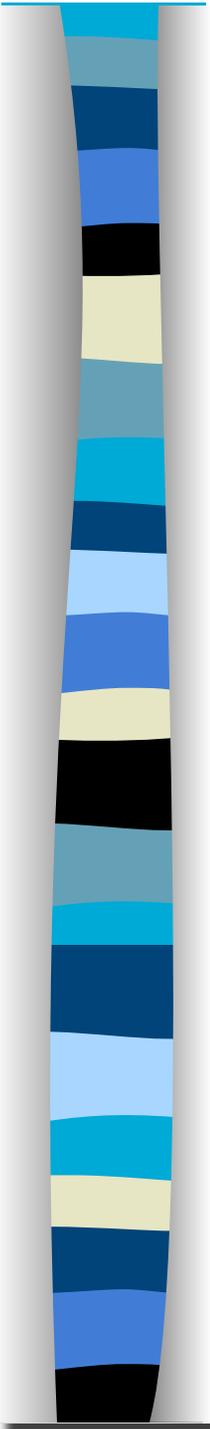
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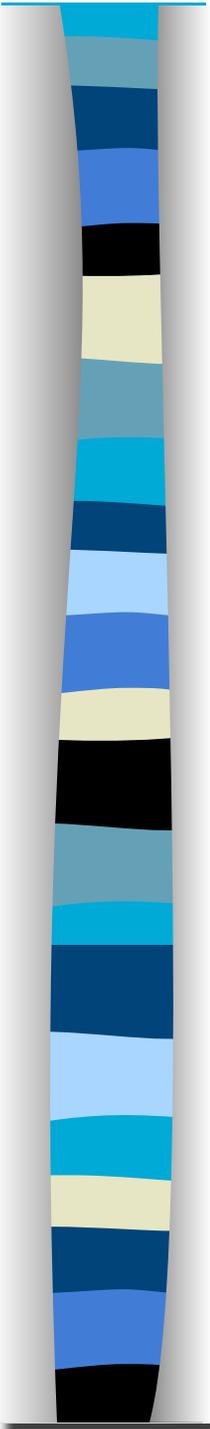
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Precautions for all Trimesters

First trimester precautions

Second trimester precautions

Third trimester precautions



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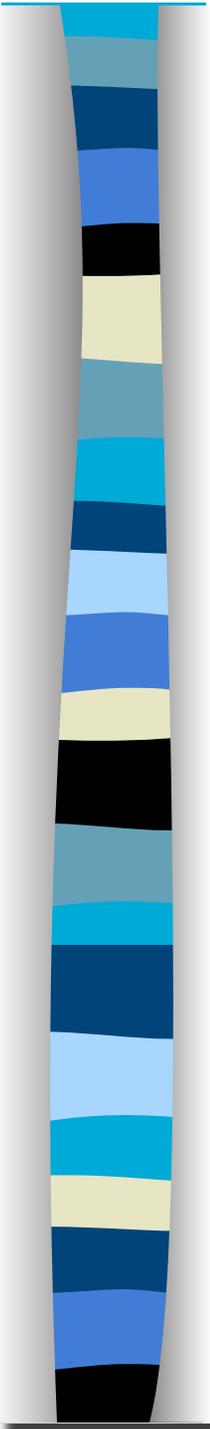
Situations addressed by massage for pregnant clients Stress, edema, aches and pains in muscles and joints, anxiety, and depression.

Precautions for all Trimesters Abdominopelvic pain, cramping, or vaginal bleeding. Immediate medical attention and medical clearance before massage.

First trimester precautions

Second trimester precautions

Third trimester precautions



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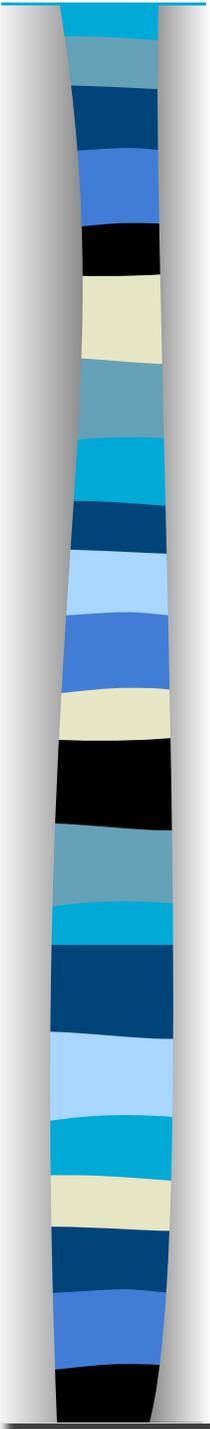
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First trimester precautions Massage is safe.

Second trimester precautions

Third trimester precautions



General suggestions for pregnant clients Prepare in advance. Listen carefully while the client tells you how SHE is experiencing pregnancy. Be open-minded, patient, tolerant, and flexible.

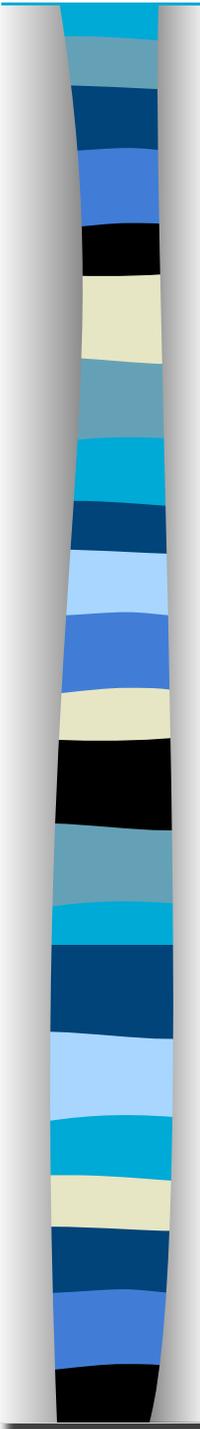
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First trimester precautions Massage is safe.

Second trimester precautions Elevating the right hip in supine alleviates pressure on the abdominal blood vessels.

Third trimester precautions



General suggestions for pregnant clients Prepare in advance. Listen carefully while the client tells you how SHE is experiencing pregnancy. Be open-minded, patient, tolerant, and flexible.

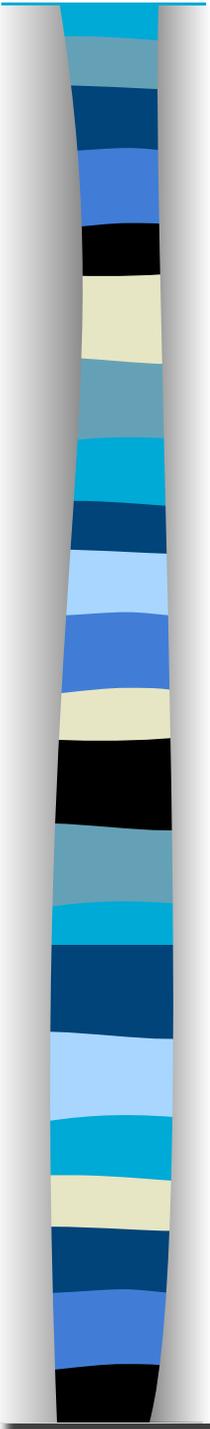
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First trimester precautions Massage is safe.

Second trimester precautions Elevating the right hip in supine alleviates pressure on the abdominal blood vessels.

Third trimester precautions Braxton-Hicks contractions. Colostrum.



Massage and Common Discomforts of Pregnancy

Fatigue

Nausea and Vomiting

Nasal Congestion

Lower Back Pain

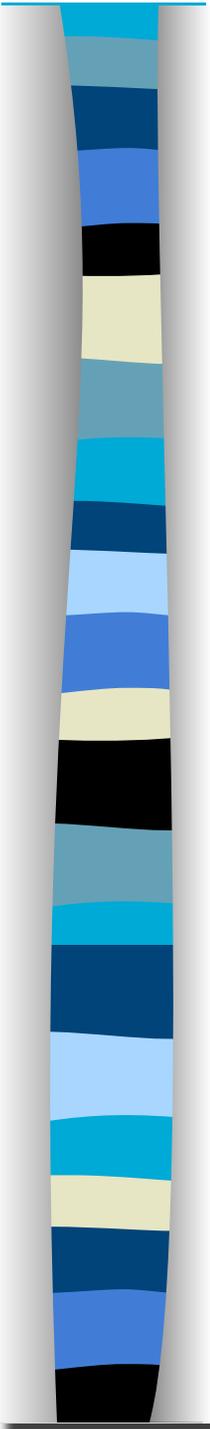
Leg Cramps

Deep Vein Thrombosis and Blood Clots

Varicose Veins

Edema

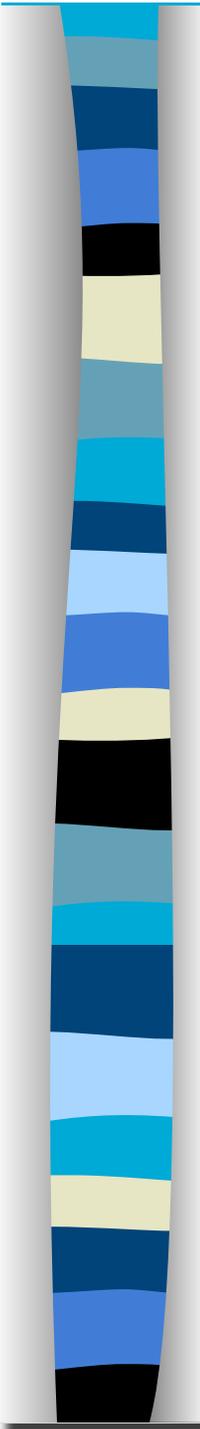
Frequent Urination



Massage and Common Discomforts of Pregnancy

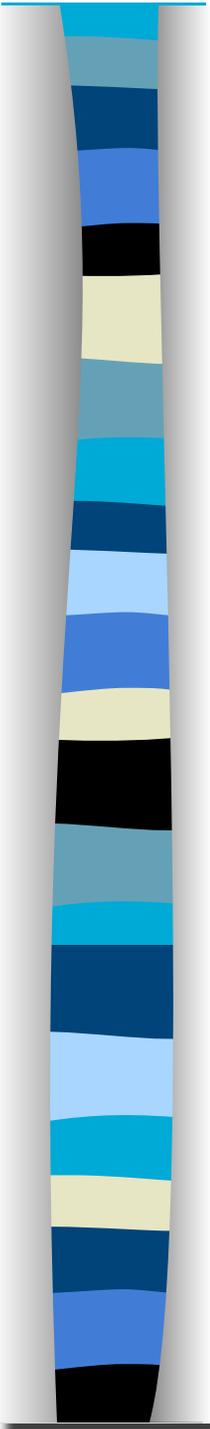
Fatigue Feeling unusually tired.

- Eating, breathing, and eliminating for two requires a great deal of energy
- Reduce treatment time to 30 minutes and use lighter-than-normal pressure
- If dizzy when getting up from the massage table, have her sit up slowly and remain seated for at least 30 seconds before standing. Be ready to assist.



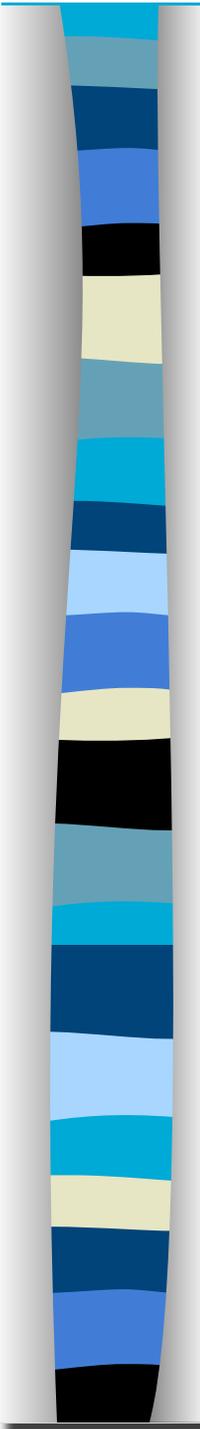
Massage and Common Discomforts of Pregnancy

Nausea and Vomiting Massage is contraindicated.



Massage and Common Discomforts of Pregnancy

Heartburn Burning sensation in the chest. Common during the third trimester.



Massage and Common Discomforts of Pregnancy

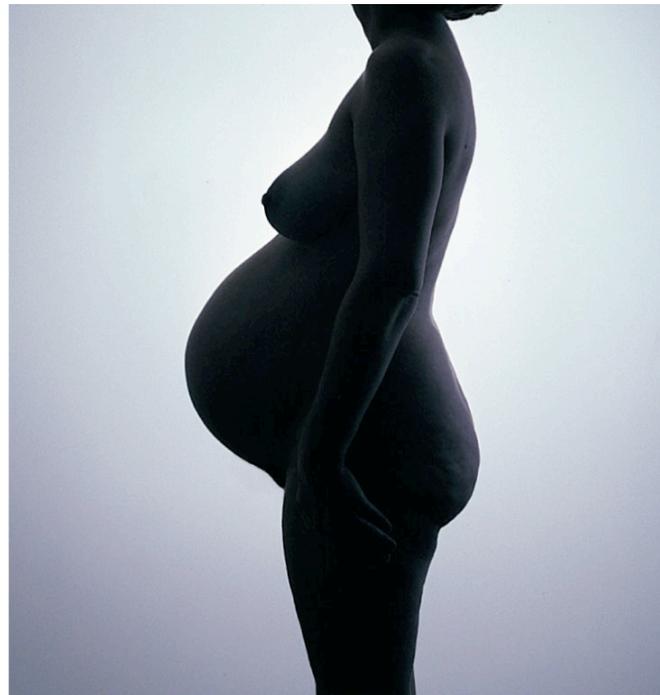
Nasal Congestion

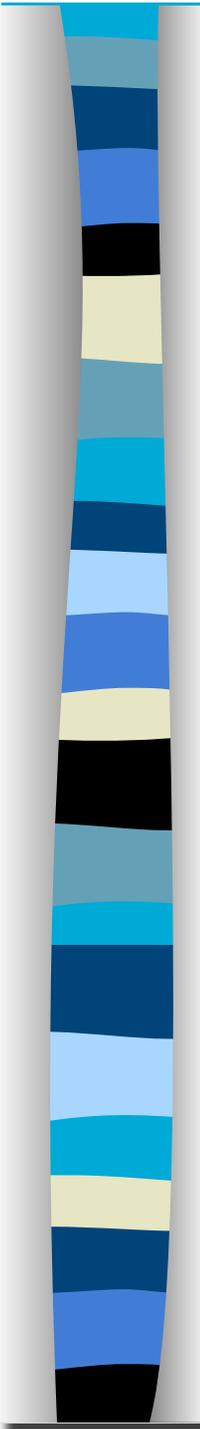
- 30% of pregnant women have congestion without any other cold symptoms.
- Usually starts in the third month and can last until the baby is delivered.

Massage and Common Discomforts of Pregnancy

Lower Back Pain

- As the uterus expands, the mother leans backward to compensate.
- Temporary relief: spend extra time on the lumbosacral area and buttocks.

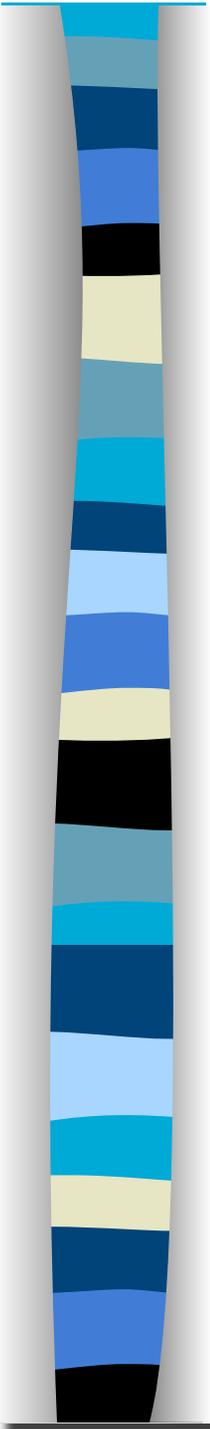




Massage and Common Discomforts of Pregnancy

Leg Cramps (AKA: Charley Horse)

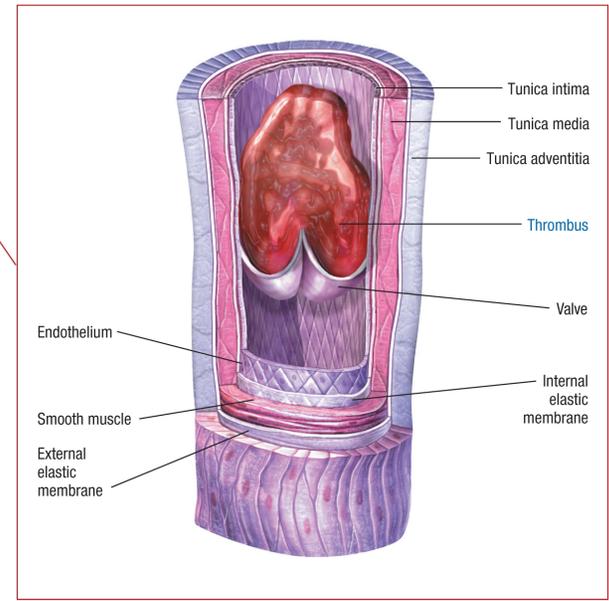
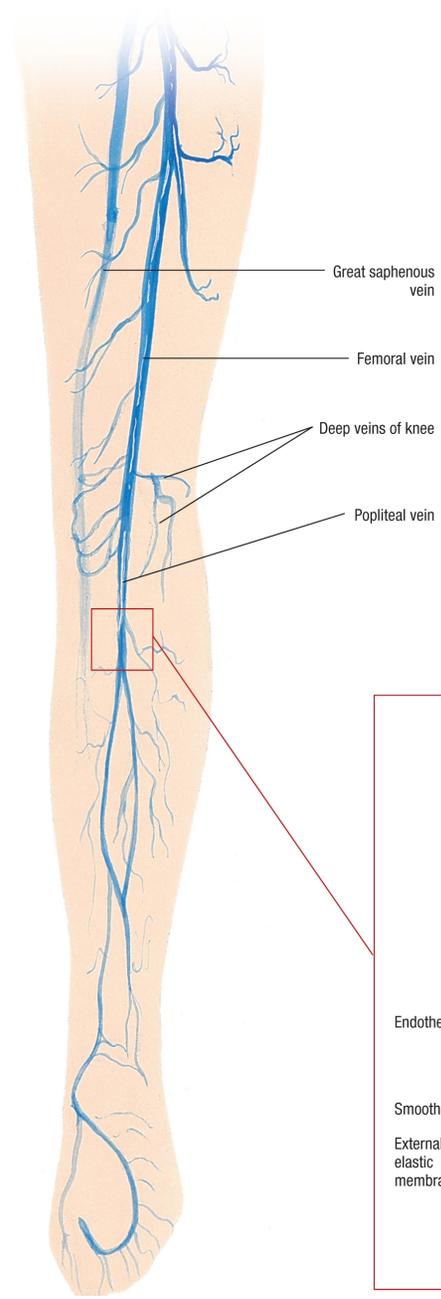
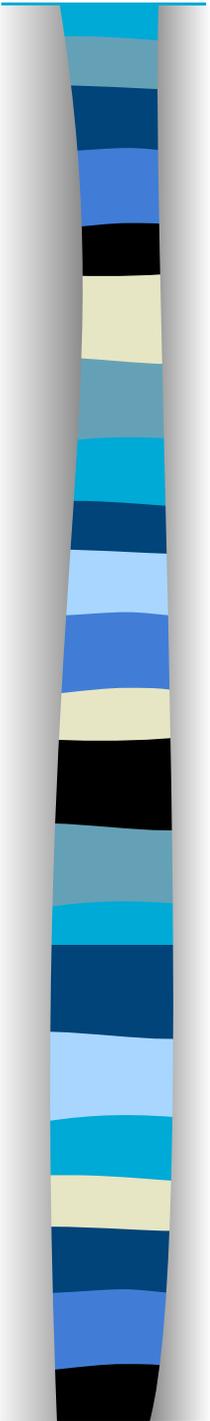
- Heavy uterus presses on blood vessels compromising blood flow to the legs.
- To prevent plantarflexion, undrape or use a light drape while supine
- If cramping occurs, dorsiflex the ankle to stretch the calf muscles.



Massage and Common Discomforts of Pregnancy

Deep Vein Thrombosis and Blood Clots

- Decreased clot-resolving properties, and increased clot-producing factors
- 5 to 6 times greater risk for blood clots
- To assess for DVT, lightly palpate entire leg feeling for hot spots

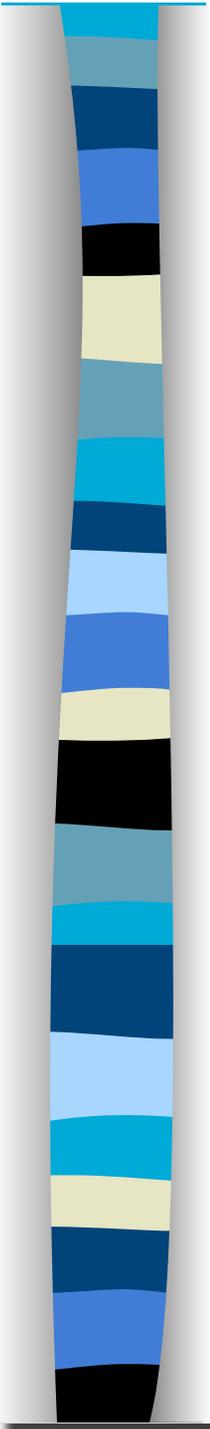


Massage and Common Discomforts of Pregnancy

Varicose Veins

- Developed or worsened during pregnancy
- Locally contraindicated if pressure causes pain
- Use bolsters or pillows to elevate legs above the heart

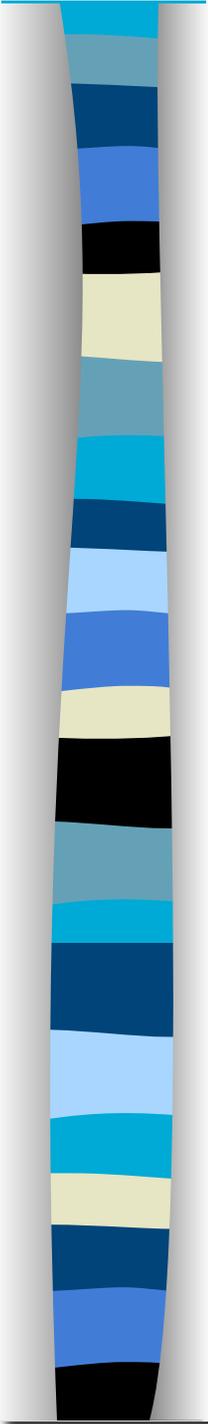


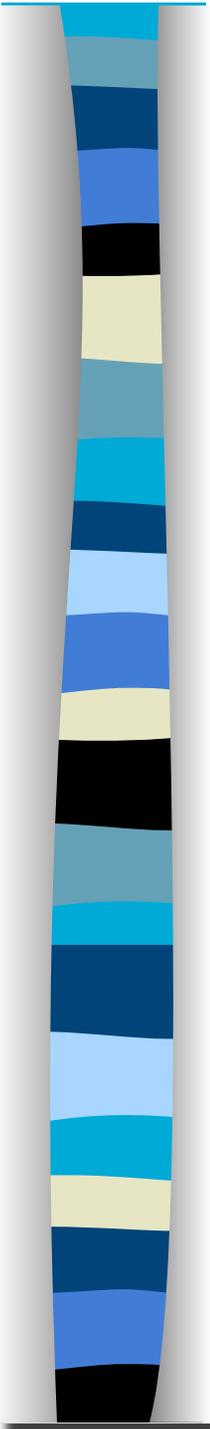


Massage and Common Discomforts of Pregnancy

Edema

- Swollen feet and ankles due to fluid volume increases in the third trimester and enlarged uterus pressing on abdominal blood vessels
- More prevalent at the end of the day. Worse during summer months
- Pitting edema: dents left when edematous skin is compressed and released
- For mild edema, elevate the affected area during massage
- Widespread and pitting edema requires medical clearance

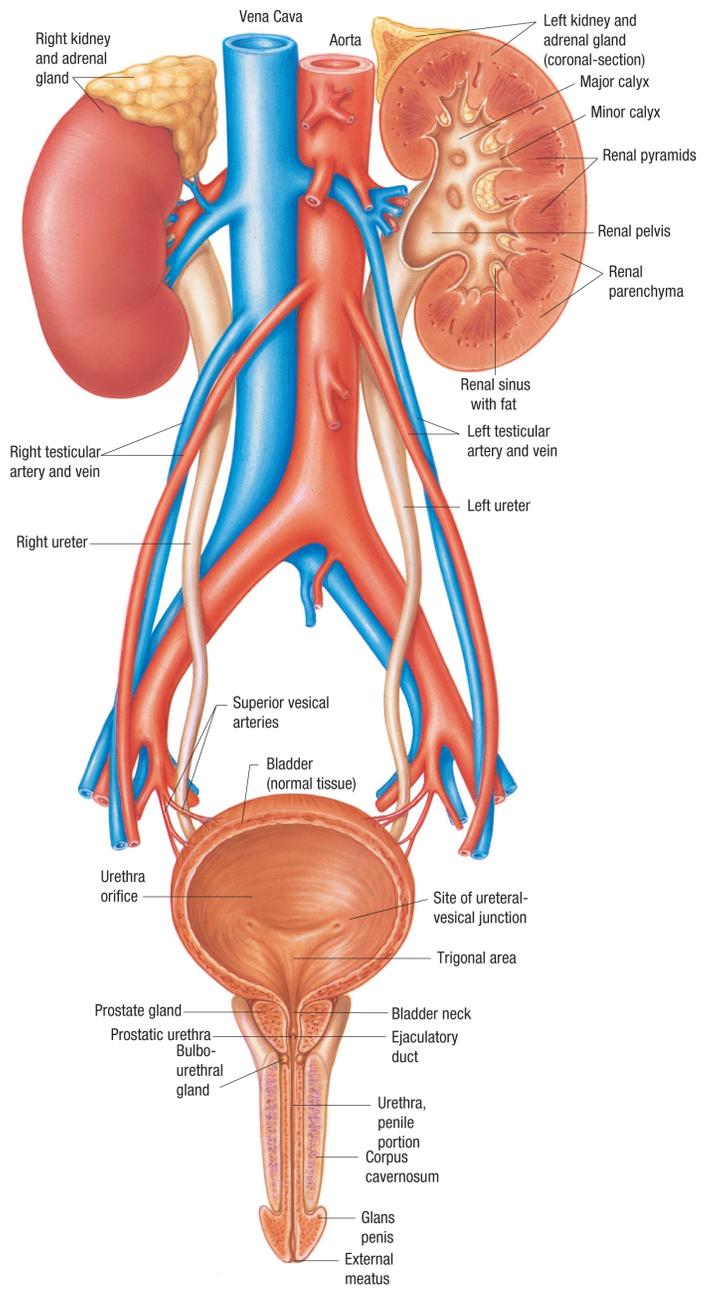




Massage and Common Discomforts of Pregnancy

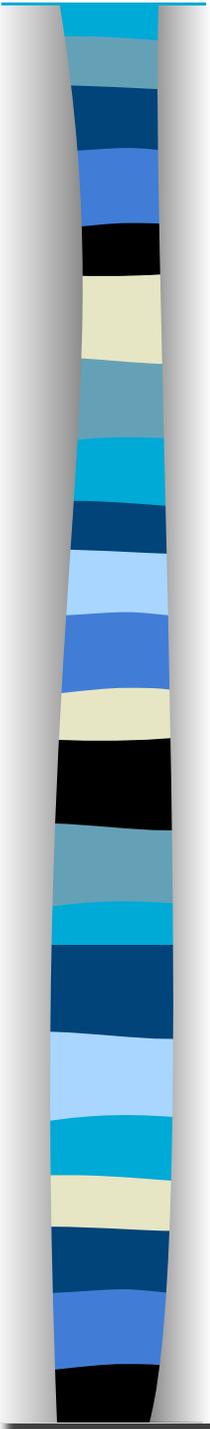
Frequent Urination

- Caused by an enlarged uterus pressing on the urinary bladder
- Hormonal changes also cause the retention of and the release of fluids
- Suggest that the client void before the session or during if needed



Kidneys and Urinary Tract

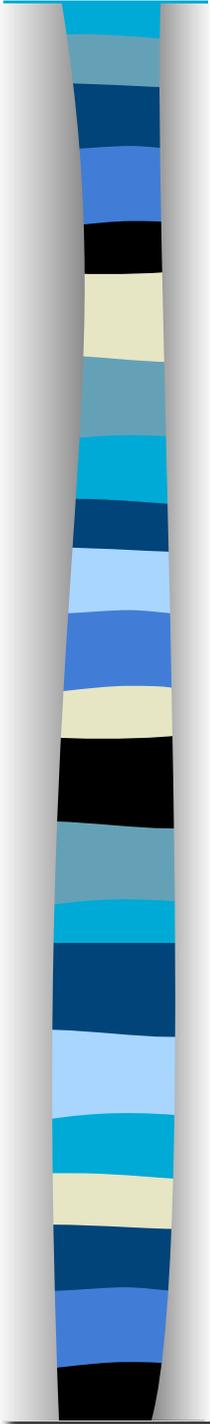
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Additional Suggestions

Technique Restriction

- No connective tissue and deep myofascial release techniques due to relaxin
- No manual traction of the legs to avoid separation of the pubic symphysis
- Joint mobilizations must be adjusted to protect and support lax joints



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