MINISTRY OF HEALTH OF UKRAINE

ODESA NATIONAL MEDICAL UNIVERSITY

Department of Obstetrics and Gynecology

APPROVED

Vice-rector for scientific and pedagogical work

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METHODOLOGICAL RECOMMENDATIONS FOR PRACTICAL CLASSES ON THE ELECTIVE DISCIPLINE "SIMULATION TRAINING IN OBSTETRICS AND GYNECOLOGY"

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PRACTICAL LESSON № 1

TOPIC: "CLINICAL EXAMINATION OF THE BREASTS"

Objective: learn the algorithm of clinical examination of mammary glands. Master the practical skills of mammary gland palpation. Be able to draw up an examination algorithm depending on the woman's age, complaints and medical history. to be ableto interpret the results of ultrasound and X-ray examination of mammary glands.

Basic concepts: types of clinical examination of mammary glands, technique of palpation of mammary glands. Indications for ultrasound examination of the breast and mammography. Benign and malignant mammary gland formations. Classification of BI-RADS.

1. Control of the reference level of knowledge (written work, written testing, online testing, frontal survey, etc.). Requirments for the theoretical readiness of students to perform practical classes.

Knowledge requirements:

- Communication and clinical patient examination skills.
- The ability to determine the list of necessary clinical and laboratory andinstrumental studies and evaluate their results.
- Ability to establish a preliminary and clinical diagnosis of the disease.
- Perform medical manipulations.
- Ability to keep medical records.
- List of didactic units:
- Types of clinical breast exam
- Algorithm of palpation of mammary gland
- Breast-self exam
- Benign and malignant tumor of mammary glands.
- Ultrasound exam of mammary glands.
- X-Ray exam of mammary glands.
- Management of benign formations of the mammary gland.

- Management of malignant neoplasms of the mammary gland.

2. Questions (test tasks, problems, clinical situations) to check basic knowledgeon the subject of the lesson.

Questions:

Clinical anatomy of the mammary gland

Classification of benign formations of the mammary gland.

Classification of breast cancer.

Changes in the mammary gland during pregnancy and lactation.

Methods of examination and diagnosis of breast neoplasms.

Modern management of women with breast pathology.

Situational tasks

1. A 65-year-old female is being evaluated for rapidly progressive erythema, swelling, induration, and warmth of her left breast. The patient denies fever, chills, or nausea. Her past medical history is significant for well-controlled hypertension, diabetes mellitus type 2, and hypothyroidism, for which she takes amlodipine, insulin, and levothyroxine. She is up-to-date on age- appropriate cancer screening under the care of her primary provider. On physical examination, the left breast is larger than the right. The overlying skin is thickened, and the left breast appears engorged. There is no palpable lump or regional lymphadenopathy. The patient has no family history of breast cancer. What is the best next step in the management of this patient?

Answer. Bilateral mammography.

This patient's findings are concerning for inflammatory breast cancer. The best next step is to order bilateral mammography, followed by an ultrasound. If radiological findings correspond to inflammatory breast cancer findings, the next step would be surgical consultation. Bacterial mastitis generally affects women who are lactating. It may also develop in patients following nipple piercing. Patients typically present with fever, and the overlying skin of the breast is thin, edematous, and erythematous.

3. Formation of professional abilities and skills (mastery of skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.).

Interactive task:

The students of the group are divided into 3 subgroups of 4-5 people each. We work in women's consultation rooms with gynecological patients, we give tasks:And the subgroup - to make a preliminary diagnosis.

Subgroup II – to draw up a management plan for a gynecological patient. Subgroup III – evaluates the correctness of the answer of subgroups I and II andmakes its corrections.

Recommendations (instructions) for performing tasks (professional algorithms, orienting maps for the formation of practical skills and abilities, etc.).

Introduction

In women, breast cancer is number one in incidence and mortality when compared to allcancers. It is the most common non-skin cancer and second deadliest cancer in women.In theory, diagnosing early-stage tumors should reduce mortality; however, it is critical toincorporate lead-time bias. The issue of concern is to determine who should be screened.There could be some slow-growing tumors that do not become clinically evident duringthe patient's life. Therefore, risk stratification, the age to begin screening, and the age tostop screening are critical for the appropriate screening of breast cancer. More recently, rather than focusing on the size and extent of a tumor to guide therapy, the focus has beenon determining biological characteristics that can help guide the prognosis and plan.

The methods of screening are:

Breast palpation may be done by clinical breast examination and breast self-examination. Breast imaging techniques such as mammography, ultrasonography, magnetic resonance imaging (MRI), and digital breast tomosynthesis (DBT)

Many multiple randomized trials have come to the consensus that routine screening mammography should be offered to women ages 50 to 69 rather than that for women ofthe age group 40 to 49 or women over 70 years of age. Genetic mutations have beendiscovered, and an increase in the risk of breast cancer and the development of breastcancer risk prediction

models have stimulated rigorous efforts to develop screeningmethods for risk stratification. For high-risk women, in addition to mammography, ultrasonography & breast magnetic resonance imaging (MRI) have been studied as screening methods. The discussion will include patient risk stratification and managementoptions for women with a genetic predisposition to breast cancer. Surveillance in women with a personal history of breast cancer is discussed in detailseparately.

Anatomyand Physiology

The mature adult breast comprises skin, subcutaneous tissue, epithelial, and stromal components. The epithelial component is comprised of branching ducts that connect the structural and functional units of breasts, known as lobules to the nipple. The stromal component comprises the majority of the breast volume in a non-lactating breast and is composed of fibrous and adipose tissue. The breast tissue extends from the 2 and 6 ribs vertically and sternal edge to midaxillary line horizontally. A part of breast tissue projects into the axilla and is known as the axillary tail of Spence. The skin of the breast is thin and contains sebaceous glands, exocrine sweat glands, and hair follicles. The nipple is devoid ofhair follicles and contains abundant sensory nerve endings and sebaceous and apocrineglands. The areola, which measures about 16 to 60 mm, is nearly circular and has higher pigmentation. There are elevations near the periphery of the areola, which form due to the opening of ducts of Montgomery glands, which are large sebaceous glands and are known asMorgagni tubercles. The Montgomery glands represent a stage between sweat and mammary glands. The breast is covered with the superficial pectoral fascia, which continueswith the superficial abdominal fascia of Camper. The breast is covered from the underside with deep pectoral fascia, which covers the muscles pectoralis major and serratus anterior. The two fascial layers covering the breast tissue are connected by fibrous bands known as Cooper suspensory ligaments that provide natural support to the breasts. The majority oftotal breast blood supply comes from internal mammary vessels. Sensory innervations are mainly from anterolateral and anteromedial branches of thoracic intercostal nerves T3 to T5. It is also supplied by lower fibers from supraclavicular nerves of the cervical plexus.

Indications

In 2015, the American Cancer Society (ACS) recommended that

- Women with an average risk should undergo regular screening mammographystarting at age 45 (strong recommendation).
- Women who are between 45 to 54 years should undergo screening annually,and women 55 years and older can undergo biennial or annual screening.
- It recommends that women aged 40 to 44 are to be given a choice to start annual mammography.
- Routine screening strategies are not strongly advised for women in age groups of 40 to 49 or those above the age of 70. However, in collaboration with mammography, breast MRI has been studied as an important screeningmethod for high-risk females and those with dense breasts. Women areadvised to continue screening mammography who have until ten years of life expectancy and good health in general.

The United States Preventive Services Task Force (USPSTF)

It recommends biennial mammography in women of age group 50 to 74. For the agegroup 40 to 49, group screening can be considered after discussing and evaluating the risks and benefits of this test with their physician.

WHO

It advises biennial mammography screening for women aged 50 to 69 years in well-resourced settings.

American College of Obstetricians and Gynecologists

It recommends twice-annual screening mammography after 55 years of age, which prevents harm as long as the patient is informed.

The USPSTF and ACS differ markedly in terms of recommendations for clinical breast examinations (CBE). ACS does not recommend them, while the USPSTF recommends aclinical breast examination with mammography in women with an average risk of developing breast cancer.

The panel of the National Comprehensive Cancer Network (NCCN) recommends womenwith

average risk in the age group of 25 to 39 years to have a clinical assessment,riskreduction counseling & clinical breast examination every 1 to 3 years. They shouldalso be recommended to inform about any changes in their breast to their health care
provider immediately.Contraindications

Certain precautions are to be taken for breast screening considering the age of a woman.New guidelines by the American College of Physicians suggest that it is cautioned that beginning at the age of 40, average-risk women with no symptoms should discuss with their physician regarding benefits, personal preferences, and potential harms of breastcancer screening with mammography before the age of 50.

Clinical breast examinations screening is not recommended no matter what age for average-risk women. The screening for those aged 75 years or older or with a life expectancy of 10 years or less should stop.

Equipment

Mammography is a low-dose x-ray modality for detailed imaging of the breast. It is the best population-based method for screening. It can demonstrate micro-calcifications less the 100 micrometers, which makes it capable of detecting lesions before they become palpable. Mammography can be done in two forms, screening and diagnostic. Those witha family or personal history of breast cancer require additional views in diagnostic/screening mammography.

Breast imaging reporting and data systems are used to guide the breast cancer diagnosticrule. It involves levels of categorization to interpret breast lesions in a standardized format among radiologists. However, the majority of screening mammograms show theabsence of evidence of cancer on subsequent testing, 1% to 2% show abnormality requiringbiopsy. The majority (80%) of these are benign lesions.

BI-RADS scoring:

- 0 - Need more information. Another mammogram may be needed.
- 1 - No abnormality. Continue routine screening.
- 2 - Benign breast conditions, such as cysts. Continue with routine screening.

- 3 - Something which is probably not cancer is detected. A repeat mammogram within thenext six months.
- 4 - Suspicious of cancer. May need a biopsy.
- 5 - Highly suggestive of cancer. It will need a biopsy.

Digital mammography can be applied better to diagnose breast cancer in dense breasts. Tomosynthesis or 3D mammography may also be used, which improves the ability to find minutely sized cancers and decrease the probability of false positives.

Magnetic resonance imaging (MRI) cost is higher than for mammography worldwide.

Thermography use is based on the fact of elevated breast skin temperatures overlyingbreast cancers.

Ultrasound is usually used to know more about the positive clinical examination orscreening mammography on diagnostic fronts. It has limited use as a screening device due to various factors, including the inability to find micro-calcification and poorspecificity.

Screening MRI is considered less specific, but more sensitive than mammography in high-risk women for detection of invasive cancers.

Annual mammography and MRI, and at times at 6 months duration, is needed for women with *BRCA* gene mutations, strong family history of breast cancer, and prior chestradiation therapy.

Personnel

As a patient can herself find breast cancer at times, she should not only be informed andmade aware of the breast self-awareness but also instructed to notify the health careprovider if and when any change in the breast occurs.The health care providers should beaffluent with screening and counseling asymptomatic patients with a family history of BRCA cancers. Genetic counselors and the team should be doing assessments to providegenetic testing after informed consent.

Preparation

Patients' history – personal as well as family is important to be assessed periodically bythe health care providers. This should include risk factors, prior biopsies, and their results,radiation exposure,

as well as a family history of breast cancer. The identification of women who will benefit from genetic counseling is essential. The Gail model is used to assess and stratify high-risk women.

Breast self-awareness is promoted according to new studies. Breast self-awareness is guided by the appearance and feel of the woman's breasts and the ability to notice any change in the breasts and report to the primary health care provider; however, in breast self-examination a regular and systematic way to examine breasts as in self-examination.

Technique

Imaging techniques for breast cancer screening are best and well accepted from a sensitivity and specificity point of view, keeping into consideration the complications and harms to the screening population. Others are breast self-examination and clinical breast examination. Amongst the imaging techniques, mammography is best accepted. Othercommonly used ones are ultrasonography and MRI.

Screening methods like mammography are most effective when targeted screening strategies are used, keeping age into considerations and other criteria like hormonal exposure, family history, and risk factors like radiation, obesity, and genetics.

Magnetic resonance imaging (MRI) is done by injection of intravenous contrast material,which increases the ability to delineate the normal breast from abnormal lesions

Complications

The mammography screening method is not accurate. Data suggests that it can be less sensitive in detecting cancer in mammographically dense breast tissue. Mammography may lead to false-negative results leading to missing cancer when it is present.

Additional treatment is associated with screening, which may not be effective and needed. Those who are screened are more likely to have surgical and radiation therapy.

And the treatment may harm economically, psychologically, physically, or productively.There has been uncertainty in estimating expectancy of life along with decreased quality- adjusted life expectancy due to overdiagnosis.

Depending on the age of initiation, frequency, and cessation of screening, the overall lifetime radiation exposure increases as women have exposure of about 3.7 mGy per digital

mammography. They are hence increasing radiation-induced breast cancer risk of 125 casesper 100,000 women in those aged 40 to 74 years. And thus, an increased number of deaths due to breast cancer screen.

Ultrasonography is generally considered to be a highly operator-dependent modality and supplemental screening test that requires a skilled practitioner, high-quality examination, and state-of-the-art equipment. Given the results of these studies, a prospective, multicenter study is warranted to examine the role of this modality of imaging in breast cancer screening.

Clinical Significance

Age should not be the only deciding factor to discontinue or continue breast cancer screening. Combinations and a balanced overview of all risk factors and density of breasts should be considered while planning for breast screening age-wise. The sensitivity and specificity of mammography become higher as age advances in comparison to young aged women.

A dense breast has a high probability of developing breast cancer. While mammography decreases the sensitivity of detecting breast cancer in women with dense breasts, other screening strategies like MRI and ultrasonography may be employed.

It has been observed that women have fast-growing breast cancers, and mammography cannot be of much help here from a screening perspective. It is advisable to discuss breastcancer screening with all women from age 40, and proper documentation should be done.According to the new guidelines, age alone should not be the guiding factor to stop screening. Women having an average risk of breast cancer should continue breast screening mammography until at least 75 years of age. General health and life expectancy should be considered

Early age of initiation and use of MRI and/or ultrasound, may be considered for women with the first-degree relative with breast cancer. A combination of annual breast MRI plusmammography for breast cancer is recommended in women who are BRCA mutation carriers.

Enhancing Healthcare Team Outcomes

The screening of breast cancer is a challenging and complex arena of clinical care as wellas preventive health care. The domain of primary health care is not only for appropriate screening

and apt history, but also abilities to know and find the inherent risk factors which may cause an imbalance in the benefit obtained from screening. Keeping the age and density of breasts into consideration, proper counseling for genetic and familially predisposed patients, a shared opinion approach has to be sought.

From the diagnostic fronts, the knowledge, skills, and abilities of radiologists, as well as technicians and nursing staff, are recommended to support and obtain required details to add to the process of screening, decreasing the probabilities of false positives as well as false negatives. The coordinated and cooperative approach of the interprofessional team will increase the probability of diagnosis by the screening methods and enrich the health care support to the patients.

Breast Cancer Screening Guidelines for Women

	U.S. Preventive Services Task Force[1,2]	American Cancer Society[3]	American College of Obstetricians and Gynecologists[4,5,6]	International Agency for Research on Cancer[7]	American College of Radiology[8,9]	American College of Physicians[10]	American Academy of Family Physicians[11]
Women aged 40 to 49 years with average risk	The decision to start screening with mammography in women prior to age 50 years should be an individual one. Women who place a higher value on the potential benefit than the potential harms may choose to begin screening once every two years between the ages of 40 and 49 years.	Women aged 40 to 44 years should have the choice to start breast cancer screening once a year with mammography if they wish to do so. The risks of screening as well as the potential benefits should be considered. Women aged 45 to 49 years should be screened with mammography annually.	After counseling and if an individual desires screening, mammography may be offered once a year or once every two years and clinical breast exams may be offered once a year. Decisions between screening with mammography once a year or once every two years should be made through shared decision-making after appropriate counseling.	There is limited evidence that screening with mammography reduces breast cancer mortality in women 40-49 years of age.	Screening with mammography is recommended once a year.	Clinicians should discuss whether to screen for breast cancer with mammography before age 50 years. Discussion should include the potential benefits and harms and a woman's preferences. The potential harms outweigh the benefits in most women aged 40 to 49 years.	The decision to start screening with mammography should be an individual one. Women who place a higher value on the potential benefit than the potential harms may choose to begin screening.
Women aged 50 to 74 years with average risk	Screening with mammography once every two years is recommended. The evidence is insufficient to assess the additional benefits and harms of clinical breast examination.	Women aged 50 to 54 years should be screened with mammography annually. For women aged 55 years and older, screening with mammography is recommended once every two years or once a year. Women aged 55 years and older should transition to biennial screening or have the opportunity to continue screening annually. Among average risk women, clinical breast examination to screen for breast cancer is not recommended.	Screening with mammography is recommended once a year or once every two years. Decisions between screening with mammography once a year or once every two years should be made through shared decision-making after appropriate counseling. Clinical breast exams may be offered annually. Clinical breast exams should be offered in the context of a shared, informed decision-making approach that recognizes the uncertainty of additional benefits and harms of clinical breast examination beyond screening mammography.	There is sufficient evidence that screening with mammography reduces breast-cancer mortality to an extent that its benefits substantially outweigh the risk of radiation-induced cancer from mammography. There is inadequate evidence that clinical breast examination reduces breast cancer mortality. There is sufficient evidence that clinical breast examination shifts the stage distribution of tumors detected toward a lower stage.	Screening with mammography is recommended once a year.	Clinicians should offer screening with mammography once every two years. In average-risk women of all ages, clinicians should not use clinical breast examination to screen for breast cancer.	Screening with mammography is recommended once every two years. Current evidence is insufficient to assess the benefits and harms of clinical breast exams.

Algorithm of examination of mammary glands

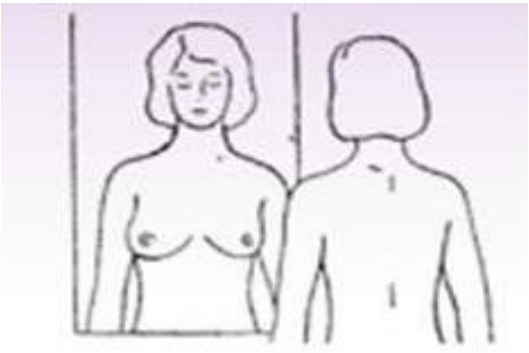
Stage 1:

The patient stands with her hands freely lowered. Carefully examine each gland. Check whether there are any changes in the size, shape, contours of the breast (one gland may be slightly larger, this is normal). Pay attention to the symmetry of both glands, whether the glands are located at the same level, whether they move evenlywhen raising and placing the hands behind the head, leaning, turning to the right and left. Is there no fixation or displacement of one of the glands to the side?

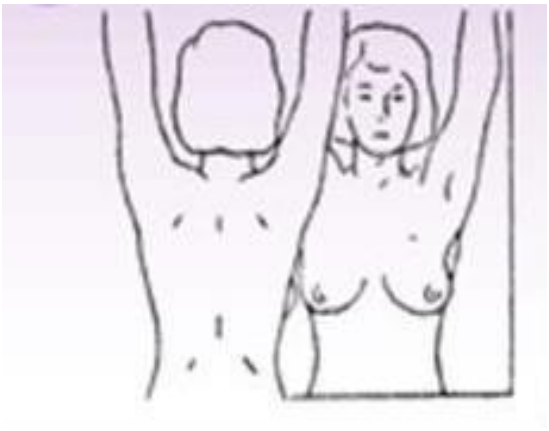
A woman should do the same self-examination every month, looking in the mirror (Fig. 1).

Stage 2:

The patient raises her hands up - again examine the mammary glands in turn, paying attention to their displacement up, to the sides or down; change in shape with the formation



of an increase, depression, retraction of the skin or nipple; the appearance of liquid drops from thenipple during these movements (Fig. 2)



Stage 3:

In the "standing" position - the so-called superficial palpation is performed, when the pads of the fingers do not penetrate into the thickness of the gland, which makesit possible to detect small formations located directly under the skin. Then a deep palpation is performed, when the pads of the fingers successively reach the ribs. Palpation should be carried out from the collarbone to the lower edge of the ribs andfrom the sternum to the axillary line, including the axillary region, whereit is possible to detect enlarged lymph nodes (Fig. 3)

Stage 4:

Carrying out "circular" palpation of the mammary glands in the standing positionof the patient. It is recommended to start palpation from the outer upper square, then with circular movements clockwise.

Stage 5:

Palpate the mammary glands in the "lying on your back" position. This is the most important part of the inspection, because this is the only way to properly examine all tissues. At the same time, note which mammary glands can befelt under the fingers. Palpation is carried out lying on a relatively hard, flat surface; you can put a roller or a hard pillow under the examined gland, stretch your hand along the body or put it behind your head. (Fig. 4)

Two methods of palpation are offered:

The method of squares, when the entire surface of the front chest wall from the collarbone to the costal edge and the mammary gland is conditionally divided into small squares. The examination is carried out sequentially in each square from top to bottom, as if by stairs. (Fig. 5)

The spiral method, when the examination of the mammary gland is carried outin a spiral in the form of concentric circles, starting from the armpit to the nipple. The pads of the fingers make circular movements, moving in the direction of the nipple. (Fig. 6)

Palpate the inguinal lymph nodes.

Stage 6: Examination of the nipple

When examining the nipples, it is necessary to determine whether there are no changes in their shape and color, whether they are retracted. Are there wetting, soresor cracks. It is necessary to feel the nipple and the inframammary area. This zone inwomen is quite sensitive and in some it is accompanied by erotic or unpleasant sensations. In conclusion, you need to carefully take the nipple with your thumb and forefinger and press on it, while noting the nature of the secretions from it or their absence. (Fig. 7)

Teach a woman to perform a monthly breast self-examination:

Out of 10 changes detected in the mammary gland - 9 are detected by women themselves, since no one knows the state of their mammary glands better than them.Most of the changes detected in the mammary gland are benign.

It is better to carry out the examination on the same day of the menstrual cycle, because changes in the size and structure of the breast occur during the month.

The best time is one week after the start of menstruation, when the mammary glandis in a relaxed state, and at the onset of menopause - on the same day of each calendar month.

PRACTICAL LESSON № 2
TOPIC: "SPECULUM EXAMINATION OF THE VAGINA AND UTERINE CERVIX. BACTERIOSCOPIC TEST OF THE FEMALE GENITAL TRACT MICROFLORA. BACTERIOLOGICAL TEST OF THE FEMALE GENITAL TRACT MICROFLORA. PAP SMEAR."

Objective: Learn the algorithm of drawing up a plan for laboratory and instrumental research in gynecological diseases and during pregnancy. Formation of skills in performing medical manipulations in gynecology.

Basic concepts: types of laboratory examinations in gynecology and obstetrics. Diagnosis of sexually transmitted diseases. Cervical cancer screening in gynecological patients and pregnant women. Management tactics of patients with infectious diseases of the genital tract, precancerous changes of the epithelium of the cervix and cervical cancer. PAP smear (cytological examination). International terminology for the classification ofcytological tests, the Bethesda system.

1. Control of the reference level of knowledge (written work, writtentest, online test, interviewed, etc.). Requirements for students' theoretical readiness to perform practicalclasses (knowledge requirements, list of didactic units).

Knowledge requirements:

- Communication and clinical patient examination skills.
- The ability to determine the list of necessary clinical and laboratory andinstrumental studies and evaluate their results.
- Ability to establish a preliminary and clinical diagnosis of the disease
- Perform medical manipulations
- Ability to keep medicalrecordsList of didactic units The technique of conducting research in mirrors using a vaginal double- bladed speculum (Cusco) and spoon-shaped (Sims) speculum.
- Assessment of the condition of mucous membranes, the vaginal part of the cervix, the external eye of the cervix and secretions in various gynecologicalpathologies and

pregnancy.

- Methods of sampling material for bacterioscopic, bacteriological, cytomorphological research.
- PAP smear. Liquid cytology. Smudge-imprint.

2. Questions (test tasks, problems, clinical situations) to check basic knowledge on the subject of the lesson.

Questions:

- Clinical anatomy of the female genitalia.
- Classification of sex transmitted diseases.
- Classification of the cytological changes of cervical epithelium.
- HPV infection, diagnosis, meaning, managment.
- Methods of examination and diagnosis of cervix neoplasms.
- Modern management of women with cervical pathology and STDs.

Situational tasks

1. A 65-year-old woman presents to the clinic for a follow up. She has a history ofcervical intraepithelial neoplasia (CIN)-2 status post-cold knife cone, gonorrhea and chlamydia treated with a test-of-cure, and a grade 1 cystocele treated with a vaginal pessary. She attained menopause at age 53years. She complains of symptoms of a malodorous vaginal discharge, irritation, and vaginal bleeding. On physical exam, she appears to have a vaginal ulcer. What is the best initial step in the management of this patient?

Answer. Remove pessary

Teaching Points

- Pessary ulcers are common, and symptoms include vaginal bleeding, vaginaldischarge, and irritation.
- Treatment includes removing pessary or changing type and size toalleviatepressure points.
- Water-based lubricants applied to pessary prevent pessary ulcers.
- Encourage nighttime device removal, washing, and reinsertion ona morefrequent

basis.

2. A 21-year-old female presents with complaints of a painful genital ulcer for the past twelve days. She states that she has noticed enlarging bumps around the ulcer. She is sexually active with two partners who do notuse condoms regularly. She recently was treated for chlamydia with ten daysof doxycycline. Her vital signs show a blood pressure of 110/75 mmHg, a heart rate of 86 beats per minute, a respiratory rate of 12 breaths per minute, and a temperature of 37 C (98.6 F). Physical examination reveals a 1 cm ulcer with an erythematous base and clearly demarcated edges in the genital region. Several enlarged lymph nodes are present in the inguinal region. Which of the following is most likely to be seen on a Gram stain of the ulcerexudate?

Answer. Gram-negative rods in long strands

Teaching Points

- The most likely diagnosis is chancroid. Its typical presentation is as a painful ulcer with an erythematous base and clear demarcated edges or irregular edges with lymphadenopathy.
- Haemophilus ducreyi is the causative organism. Gram stain of the exudate mayshow the typical "school of fish" finding of gram-negative rods in long strands.
- Worm-like spiral bacteria describes Treponema pallidum, the causative agent forsyphilis. Syphilis causes painless ulcers. Klebsiella is a gram-negativeencapsulated rod. Klebsiella granulomatis causes beefy genital lesions. Neisseriagonorrhea appears as gram-negative diplococci but does not cause genital lesions. Chlamydia willnot be seen on Gram stain and presents as small, shallow painless ulcers

3. Formation of professional abilities and skills (mastery of skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.). Recommendations (instructions) for performing tasks (professional algorithms, orienting maps for the formation of practical skills and abilities, etc.).

Introduction

Each year, more than half a million women are diagnosed withcervical cancer and the disease results in over 300 000 deaths worldwide. High-risk subtypes of the (HPV) are the cause of the disease in most cases. The disease is largely preventable. Approximately 90% of cervical cancers occur in low-income and middle-income countries that lack organised screening and HPV vaccination programmes. In high-income countries, cervical cancerincidence and mortality have more than halved over the past 30 years sincethe introduction of formal screening programmes. Treatment depends on disease extent at diagnosis and locally available resources, and might involve radical or chemoradiation, or a combination of both. Conservative,fertility- preserving surgical procedures have become standard of care forwomen with low-risk, early-stage disease. Advances in radiotherapytechnology, such as intensity- modulated radiotherapy, have resulted in lesstreatment-related toxicity for women with locally-advanced disease. Forwomen with metastatic or recurrent disease, the overall prognosis remainspoor; nevertheless, the incorporation of the anti-VEGF agent has been able to extend overall survival beyond 12 months. Preliminary results of novel immunotherapeutic approaches,similarly toother have shown promising results so far.

The methods of screening are:

- PAP smear. Liquid cytology. Smudge-imprint
- Detecting of HPV (PCR method).

Steps of examination with speculum

Introduction

- Introduce yourself to the patient
- Wash your hands
- Explain to the patient what the examination involves andwhy it isnecessary
- For example: “I will be passing a speculum, which is a plastic/metalinstrument, through the vagina to visualise theneck of the womb.”
- Reassure them that this should not be painful, but youwill stopimmediately if it becomes too uncomfortable

- Obtain verbal consent
- Request a chaperone

Preparation

- The patient ought to have an empty bladder, as this canmake theexamination less uncomfortable
- Ask the patient to remove all clothing from the waist downand anysanitary protection
- Cover with sheet when appropriate
- Prepare your equipment: gloves, lubricant, speculum (forexampleCusco's speculum) +/- smear, swabs, Pipelle biopsy

Abdominal Examination

- Inspect the abdomen for scars and ascites
- Palpate the abdomen for masses and tenderness
- Palpate the groin for inguinal lymphadenopathy

External Examination

The patient should be laid on their back, with legs bent at the hip (feettowards their buttocks), and asked to flop their knees apart.

- Put on a pair of gloves
- Inspect the external genitalia for:
- Deficiency associated with childbirth
- Abnormal secondary sexual characteristics hairdistribution, cliteromegaly
- Skin abnormalities – lesions, warts, erythema
- Discharge – colour, consistency
- Bleeding
- Swellings of the vulva – tumours, cysts (sebaceous, Bartholin's)
- Ask the patient to cough or strain to observe any incontinence orprolapse
- Palpate the labia majora with the index finger and thumb for anyswellings

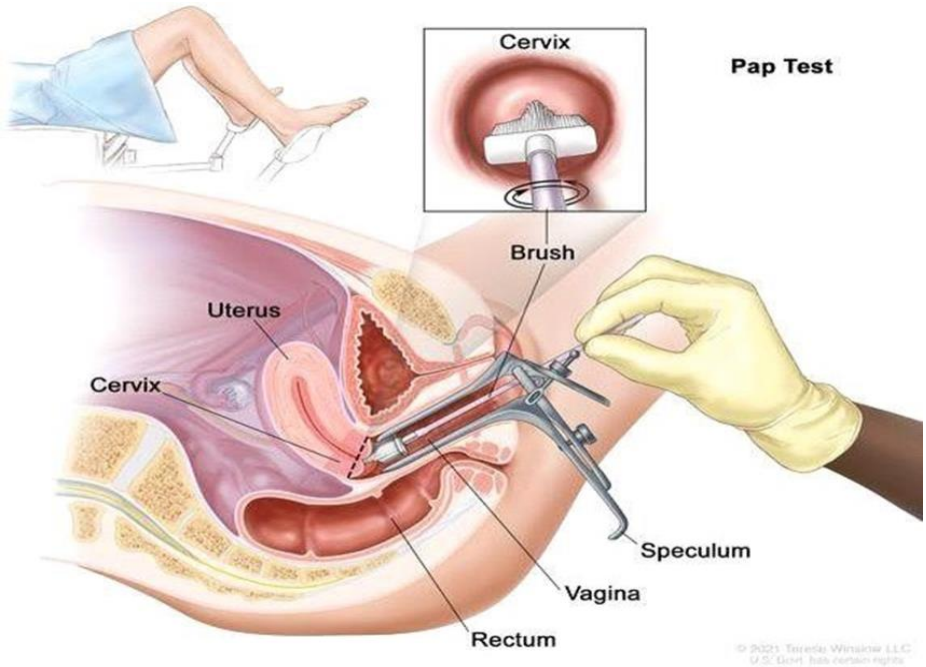
Speculum Examination

- Lubricate the speculum and warn the patient

- Part the labia using your left hand
- Gently insert the speculum with your right hand:
- Fully insert the speculum with the screw facing sideways and thebladesvertical
- Rotate 90 degrees during insertion so the screw faces upwards andtheblades become horizontal
- Slowly open the blades and use light to inspect the cervix Tighten the screw to hold open the speculum so you can use yourright handfor swabs or Pipelle biopsy if necessary
- take a glass slide marked U/C/V;
- collect the material for bacterioscopic examination from the urethra with a cotton applicator or a Volkmann spoon from a depth of 1.5-2 cm by scrapingand apply it to the slide in the U area;
- collect material for bacterioscopic examination:
- remove excess secretions with a cotton swab;
- carefully insert the second end of a Volkman spoon or a cytobrushinto the cervical canal, take the material by scraping, apply it to the slide in area C;
- take the material from the back vault with an Eyra spatula, apply it to the slide in area V;

To collect swab for cytomorphological test:

- use an Eyre spatula (or a cytobrush bent at 90°) to scrape from the surface of the cervix by making a full rotation (360°), apply the material to the slide with a broad stroke, a thin and even stroke under the mark V (exocervix);
- insert the cytobrush into the cervical canal, turn it 360° 2-3 times, apply the collected material with rotational movements around its axisto the glass under the mark C (endocervix



Look for:

- Abnormal discharge
- Erosions
- Ulcerations
- Growths
- Inflammation
- Bleeding
- Polyps
- Ectropion

At this point swabs/endometrial biopsy should be taken if required to remove the speculum, undo the screw to allow the blades to close (leave open slightly to not pinch the vaginal walls), rotating back 90 degrees and gently remove.

To Complete the Examination

- Thank the patient and allow them to get dressed in private
- Dispose of your gloves and wash your hands
- Once the patient is dressed you can summarise the findings andsuggestfurther investigations

- Send any specimens with a request form

PAP smear collecting

During the examination, the gynecologist takes a swab for cytology, onecan say using the traditional method. The smear is applied to glass, fixed, dried, and then the smear is examined by a cytologist. The obtained results are useful, but less informative.

In liquid cytology, the same material from the smear is transferred to apreservation liquid (thus keeping the cells in their natural state) and examined in the laboratory. The PAP test is performed using the SurePath BD technology, an automated method recommended by the FDA (USA) and CE protocols. Research results for cervical cancer screening are much more accurate and informative. The advantages of such a cytological screening are:

- Answer from the first take of the material;
- A significant reduction in the number of unsatisfactory or limited for interpretation materials, by 43-81%;
- Thanks to SurePath BD technology, impurities of blood and mucus that can be present during inflammatory processes during pregnancy are removed.
- Since all the cells are stored in the preservation liquid, it contributes to highaccuracy of the study;
- With one-time sampling, it is possible to conduct several diagnostic tests toincrease the effectiveness of cervical screening.

Preparation for analysis:

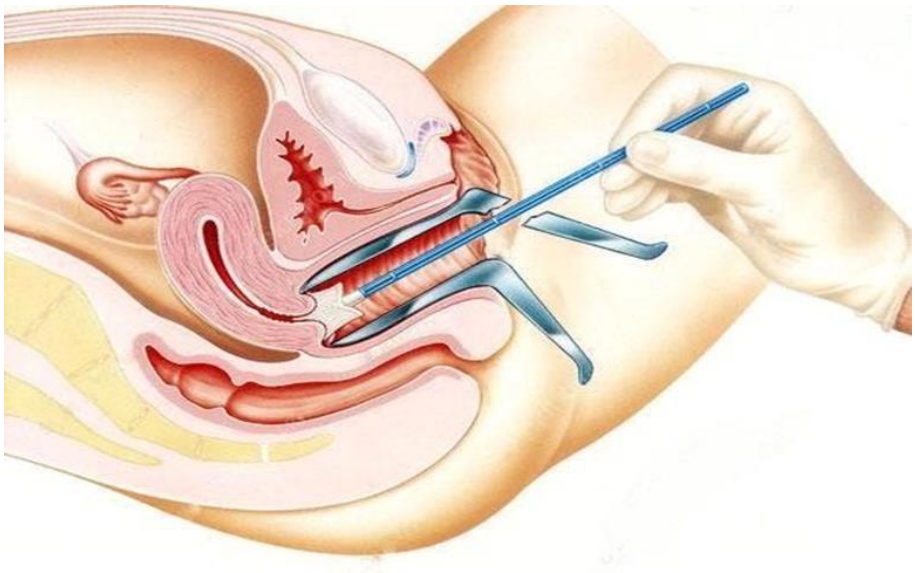
The recommended period for taking the material is 8-20 days of themenstrual cycle;

Two days before the time appointed for the procedure, do not use any vaginal products,do not have sexual contact;

Collection no less than a day after the gynecologist's examination andcolposcopy;

For women who gave birth no earlier than 5-6 weeks after giving birth.

The procedure is painless, very slight discomfort is possible. The gynecologist takes the cells for analysis with a special soft brush. After that, the obtained material is transferred to a special container with a solution and sent forresearch.



The results of the Pap test are classified according to the international terminology forthe classification of cytological tests, the Bethesda system.Changes in the squamous epithelium:

- NILM - negative results, normal state of the epithelium, that is, thecytogram iswithin normal limits.
- ASC-US - are atypical cells with uncertain features. At this stage,changes arereversible.
- ASC-H - atypical cells of the squamous epithelium, when dysplasiacannot beexcluded.
- LSIL - cells with signs of disruption, low degree of malignancy, milddysplasia.
- HSIL - lesions of a high degree of malignancy, suspicion of cancer.
- CIS - invasive squamous cell carcinoma.

Changes in the glandular epithelium:

- AGC-US - atypical cells of the glandular epithelium of unknown significance.
- AGC favor neoplastic - atypical cells with suspicion of neoplasia(precancerouslesion).
- AIS - adenocarcinoma.

Clinical management according to results of PAP smear

Pap Smear Test Result	21-24 Years of Age	25-29 Years of Age	≥ 30 Years of Age HPV Negative	≥ 30 Years of Age HPV Positive
Normal Pap Test Result	• Pap test every 3 years	• Pap test every 3 years	• Co-testing every 5 years o preferred • Pap test every 3 years o acceptable	• Co-testing in 1 year o acceptable • HPV typing o acceptable
ASC-US	• Pap test in 1 year o preferred • Reflex HPV test o acceptable	• Pap test in 1 year o acceptable • Reflex HPV test o preferred	• Repeat co-testing in 3 years	• Colposcopy
LSIL	• Repeat pap test in 1 year	• Colposcopy	• Repeat pap test in 1 year o preferred • Colposcopy o acceptable	• Colposcopy
ASC-H	• Colposcopy	• Colposcopy	• Colposcopy	• Colposcopy
HSIL	• Colposcopy	• Excisional treatment or colposcopy	• Excisional treatment or colposcopy	• Excisional treatment or colposcopy

Co-testing = Pap and HPV testing

Moises Dominguez

Sex transmittedinfection Key facts

- More than 1 million sexually transmitted infections (STIs) are acquiredevery day worldwide, the majority of which are asymptomatic.
- Each year there are an estimated 374 million new infections with 1 of 4 curable STIs: chlamydia, gonorrhoea, syphilis and trichomoniasis.
- More than 500 million people 15–49 years are estimated to have agenitalinfection with herpes simplex virus (HSV or herpes) (1).
- Human papillomavirus (HPV) infection is associated with over 311 000cervical cancer deaths each year (2).
- Almost 1 million pregnant women were estimated to be infected withsyphilis in 2016, resulting in over 350 000 adversebirth outcomes (3).
- STIs have a direct impact on sexual and reproductive health through stigmatization, infertility, cancers and pregnancycomplications and can increase the risk of HIV.
- Drug resistance is a major threat to reducing the burden of STIs worldwide.

Overview

More than 30 different bacteria, viruses and parasites are known to be transmitted through sexual contact, including vaginal, anal and oral sex. Some STIs can also be

transmitted from mother-to-child during pregnancy, childbirth and breastfeeding. Eight pathogens are linked to the greatest incidence of STIs. Of these, 4 are currently curable: syphilis, gonorrhoea, chlamydia and trichomoniasis. The other 4 are incurable viral infections: hepatitis B, herpes simplex virus (HSV), HIV and human papillomavirus (HPV). In addition, emerging outbreaks of new infections that can be acquired by sexual contact such as monkeypox, *Shigella sonnei*, *Neisseria meningitidis*, Ebola and Zika, as well as re-emergence of neglected STIs such as lymphogranuloma venereum. These herald increasing challenges in the provision of adequate servicesfor STIs prevention and control

Scope of the problem

STIs have a profound impact on sexual and reproductive health worldwide. More than 1 million STIs are acquired every day. In 2020, WHO estimated 374 million new infections with 1 of 4 STIs: chlamydia (129 million), gonorrhoea (82 million), syphilis (7.1 million) and trichomoniasis(156 million). More than 490 million people were estimated to be living with genital herpes in 2016, and an estimated 300 million women have an HPV infection, the primary cause of cervicalcancer and anal cancer amongmen who have sex with men. An estimated 296 million people are living with chronic hepatitis B globally.

STIs can have serious consequences beyond the immediate impact oftheinfection itself.

- STIs like herpes, gonorrhoea and syphilis can increase the risk of HIVacquisition.
- Mother-to-child transmission of STIs can result in stillbirth, neonatal death, low-birth weight and prematurity, sepsis, neonatal conjunctivitis and congenital deformities.
- HPV infection causes cervical and other cancers.
- Hepatitis B resulted in an estimated 820 000 deaths in 2019, mostly from cirrhosis and hepatocellular carcinoma. STIs such as gonorrhoeaand chlamydia are major causes of pelvic inflammatory disease and infertility in women.

Prevention of STIs

When used correctly and consistently, condoms offer one of the most effective methods of protection against STIs, including HIV. Although highly effective, condoms do not offer protection for STIs that cause extra- genital ulcers (i.e., syphilis or genital herpes). When

possible, condoms should be used in all vaginal and anal sex.

Safe and highly effective vaccines are available for 2 viral STIs: hepatitis B and HPV. These vaccines have represented major advances in STI prevention. By the end of 2020, the HPV vaccine had been introduced as part of routine immunization programmes in 111 countries, primarily high- and middle-income countries. To eliminate cervical cancer as a public health problem globally, high coverage targets for HPV vaccination, screening and treatment of precancerous lesions, and management of cancer must be reached by 2030 and maintained at this high level for decades.

Research to develop vaccines against genital herpes and HIV is advanced, with several vaccine candidates in early clinical development. There ismounting evidence suggesting that the vaccine to prevent meningitis (MenB) provides some cross-protection against gonorrhoea. More research into vaccines for chlamydia, gonorrhoea, syphilis and trichomoniasis are needed.

Other biomedical interventions to prevent some STIs include adult voluntary medical male circumcision, microbicides, and partner treatment. There are ongoing trials to evaluate the benefit of pre- and post-exposure prophylaxis of STIs and their potential safety weighed with antimicrobial resistance (AMR).

Diagnosis of STIs

STIs are often asymptomatic. When symptoms occur, they can be non- specific. Moreover, laboratory tests rely on blood, urine or anatomical samples. Three anatomical sites can carry at least one STI. These differencesare modulated by sex and sexual risk. These differences can mean the diagnosis of STIs is often missed and individuals are frequently treated for 2 or more STIs.

Accurate diagnostic tests for STIs (using molecular technology) are widely used in high-income countries. These are especially useful for the diagnosis of asymptomatic infections. However, they are largely unavailablein low- and middle-income countries (LMICs) for chlamydia and gonorrhoea. Even in countries where testing is available, it is often expensive and not widely accessible. In addition, the time it takes for results to be

received is often long. As a result, follow-up can be impeded and care or treatment can be incomplete.

On the other hand, inexpensive, rapid tests are available for syphilis, hepatitis B and HIV. The rapid syphilis test and rapid dual HIV/syphilis tests are used in several resource-limited settings.

Several other rapid tests are under development and have the potential to improve STI diagnosis and treatment, especially in resource-limited settings

Treatment of STIs

Effective treatment is currently available for several STIs.

- Three bacterial (chlamydia, gonorrhoea and syphilis) and one parasitic STIs (trichomoniasis) are generally curable with existing single-dose regimens of antibiotics.
- For herpes and HIV, the most effective medications available are antivirals that can modulate the course of the disease, though they cannot cure the disease.
- For hepatitis B, antivirals can help fighting the virus and slowing damage to the liver.

AMR of STIs – in particular gonorrhoea – has increased rapidly in recent years and has reduced treatment options. The Gonococcal AMR Surveillance Programme (GASP) has shown high rates of resistance to many antibiotics including quinolone, azithromycin and extended-spectrum cephalosporins, alast-line treatment .

AMR for other STIs like *Mycoplasma genitalium*, though less common,also exists.

STI case management

LMICs rely on identifying consistent, easily recognizable signs andsymptoms to guide treatment, without the use of laboratory tests. Thisapproach – syndromic management – often relies on clinical algorithms andallows health workers to diagnose a specific infection based on observed symptons (vaginal/urethral discharge, anogenit ulcers, etc) is simple, assures rapid, same-daytreatment, and avoids expensive or unavailable diagnostic tests for for patients with symptoms. However, this approach results in overtreatment and missedtreatment as the majority of STIs are asymptomatic.

Thus, WHO recommends countries to enhance syndromic management by gradually

incorporating laboratory testing to support diagnosis. In settings where quality assured molecular assays are available, it is recommended to treat STIs based on laboratory tests. Moreover, STI screening strategies are essential for those at higher risk of infection, such sex workers, men who have sex with men, adolescents in some settings and pregnant women.

To interrupt transmission and prevent re-infection, treating sexual partnersis an important component of STI case management.

Health services for screening and treatment of STIs remain weak

People seeking screening and treatment for STIs face numerous problems. These include limited resources, stigmatization, poor quality of services and often out-of-pocket expenses. Some populations with the highest rates of STIs – such as sex workers, men who have sex with men, people who inject drugs, prison inmates, mobile populations and adolescents in high burden countries for HIV – often do not have access to adequate and friendly health services.

In many settings, STI services are often neglected and underfunded. These problems lead to difficulties in providing testing for asymptomatic infections, insufficient number of trained personnel, limited laboratory capacity and inadequate supplies of appropriate medicines.

WHO:

- develops global targets, norms and standards for STI prevention, testing andtreatment;
- supports the estimation and economic burden of STIs and thestrengtheningof STI surveillance;
- globally monitors AMR to gonorrhoea; and
- leads the setting of the global research agenda on STIs, including the development of diagnostic tests, vaccines and additional drugs for gonorrhoea and syphilis.

As part of its mission, WHO supports countries to:

    - develop national strategic plans and guidelines;
    - create an encouraging environment allowing individuals to discussSTIs, adopt safer sexual practices, and seek treatment;
    - scale-up primary prevention (condom availability and use, etc.)
- increase integration of STI services within primary healthcare services;
- increase accessibility of people-centred quality STI care;
- facilitate adoption of point-of-care tests;
- enhance and scale-up health intervention for impact, such as hepatitis B and HPV vaccination, syphilis screening in priority populations;
- strengthen capacity to monitoring STIs trends; and
- monitor and respond to AMR in gonorrhoea.

PRACTICAL LESSON № 3

TOPIC: «BIMANUAL PELVIC EXAMINATION»

Objective: Learn the algorithm of bimanual examination in gynecology for gynecological patients. Perform medical manipulations in the conditions of a medical institution, at home or at work based on a previous clinical diagnosis and/or indicators of the patient's condition, using knowledge about a person, his organs and systems, observing the relevant ethical and legal norms, by making a reasoned decision and using standard methods of drawing up a plan for laboratory and instrumental research in gynecological diseases and during pregnancy. Formation of skills in performing medical manipulations in gynecology.

Basic concepts: algorithm of bimanual examinations in gynecology andobstetrics. Diagnosis of changes of pelvic organs due to inflammatory diseases,tumor, ectopic pregnancy, early term of pregnncy with bimanual examination.

1. Control of the reference level of knowledge (written work, written test,online test, interviewed, etc.). Requirements for students' theoretical readiness to perform practicalclasses (knowledge requirements, list of didactic units).

Knowledge requirements:

- Communication and clinical patient examination skills.
- The ability to determine the list of necessary clinical and laboratory and instrumental studies and evaluate their results Uterine sarcoma
- Ovarian cyst

Tactics:

- Dispensary observation at the place of residence
- Urgent active treatment
- Ultrasound of the pelvis
- Curretage of the uterine cavity and cervical canal

2. Questions (test tasks, problems, clinical situations) to check basic knowledge on the

subject of the lesson.

1. Patient V., 29 years old, admitted to the gynecologist complaining of the absence of pregnancy in her marriage. It is known from the anamnesis: menstruation from the age of 12, regular, for 4-5 days, after 28 days, painless. The last period was from 15.04 to 19.04., came on time, without any special features. Sexual life since 24 years, married for 5 years, does not use contraceptive methods. 1st pregnancy, ended with a medical abortion at 8 weeks. After that, for the past six years, he has been treated annually for exacerbation of chronic bilateral adnexitis. Her husband is 32 years old, healthy, smokes.

On examination: the external genitalia are formed correctly, the hair is of the female type. The vagina of a barren woman, the mucous membrane is pale pink in color. The cervix is conical in shape, clean, the external opening is slit-like.

Bimanually: Uterus in anteflexio-anteversio, normal size, dense-elastic consistency, limited mobility during palpation, painless. The appendages are heavy on both sides, sensitive to palpation. Vaults are deep, parameters are free.

Presumed diagnosis? What tests should be performed to confirm the diagnosis?

Diagnosis: Secondary infertility, tubular - peritoneal form. Chronic bilateral adnexitis, without exacerbation.

Tactics: metrosalpingographia

2. Patient V., 18 years old, admitted to the gynecologist with a complaint ofthe absence of menstruation, vaginal dryness, impossibility of sexual activity. From the anamnesis it is known: she was born a premature baby, she wasoften sick in childhood.

Status preasens: female phenotype, height 165 cm, BMI 21 kg/m2. The skin is clean. The mammary glands are hypoplastic. There is no hair growth in the armpits on examination: Pubic hair is absent. The labia majora are hypertrophied, rounded formations 2x2 cm are determined in their thickness. The labia minora are hypoplastic.

In the mirrors: the vagina is narrow, shortened, ends blindly.

Bimanually: in the projection of the uterus, the muscular roller is determined, the appendages are not determined.

Estimated diagnosis? What tests are needed to confirm the diagnosis?

Diagnosis: Morris Syndrome.

Examination plan: - Ultrasound of the pelvic organs

- karyotype study
- definition of sex chromatin

Treatment: removal of the testicles, HRT.

3. Patient V., 45 years old, admitted to a gynecologist with complaints of bloody discharge from the genital tract. From the anamnesis it is known: menstruation from the age of 13, for 4-5 days, after 29 days, moderate, regular, painless. Last year, menstruation became more abundant, longer (upto 10 days). Six months ago,a small uterine fibroid was diagnosed.

On examination: the external genital organs are formed correctly, the hair is ofthe female type. The vagina giving birth, the mucous membrane is pale pink. The cervix is cylindrical, clean.

Bimanually: Uterus in anteflexio-anteversio, enlarged up to 9 weeks, dense- elastic consistency, palpation is limited mobile, bumpy, painless. Appendages on both sides are not palpable, painless. The vaults are deep, the parameters are free.

What is your diagnosis? What additional examinations need to be performed?

Answer

Diagnosis: uterine fibroids.

- Transvaginal ultrasound
- Hysteroscopy, separate medical and diagnostic curettage of the uterinecavity, cervical canal.

3. Formation of professional abilities and skills (mastery of skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.). Recommendations (instructions) for performing tasks (professional algorithms, orienting maps for the formation of practical skills and abilities, etc.).

Vaginal examination.

After the speculum examination, a vaginal examination is performed. It is carried outwith the help of fingers inserted into the vagina, with two hands. The labia are parted with the thumb and index finger of the left hand, the middle and index finger of the right hand are inserted into the vagina, sensitivity, width of the entrance to the vagina, elasticity of its walls, the condition of the mucous membrane, the presence oftumors, partitions are assessed.

Next, the vaginal part of the cervix is examined, its shape, size, shape of the externaleye,the presence of scars, ruptures after childbirth, and tumors are determined.

Vaginal and abdominal examination.

Then a two-handed (bimanual) combined vaginal-abdominal examination is performed. This is the main gynecological examination, as it allows you to assess theposition, size,shape of the uterus, determine the condition of the appendages, pelvic peritoneumand tissue During a bimanual examination, tissues and organs are palpated not with the tips of thefingers, but, if possible, withthe entire surface of the fingers.

Bimanual examination is a continuation of vaginal examination. At the same time, one hand (inner) is in the vagina, and the other (outer) is above the womb.

Research begins with the uterus. Normally, the uterus is located along the midline of the pelvis, at the same distance fromthe pubic symphysis and the sacrum.

The uterus of an adult woman is pear-shaped, flattened in the anterior-posteriordirection, its surface is smooth.

On examination, the uterus is painless, mobile in all directions, its consistency isnormallyelastic After examination of the uterus, the appendages (ovaries and fallopian tubes) are palpated. Normally, theyare not palpable. Pipes, ligaments, fiber are not normallydefined.

Rectal-abdominalexamination.

If examination through the vagina is impossible (in girls, with vaginal atresia, tumors), a combined rectal examination is performed.

The research is carried out on a gynecological chair in a sterile rubber glove lubricated with petroleum jelly. A clean sing enema must be prescribed before hand.

A combined rectal-vaginal-abdominal examination is carried out if there is a suspicion

of the presence of pathological processes in the wall of the vagina or the rectum. For this, the index finger is inserted into the vagina, the middle finger of the right hand is inserted into the rectum, and the pelvic organs are palpated through the abdominal wall with the left hand. At this time, all women are examined to rule out rectal cancer.

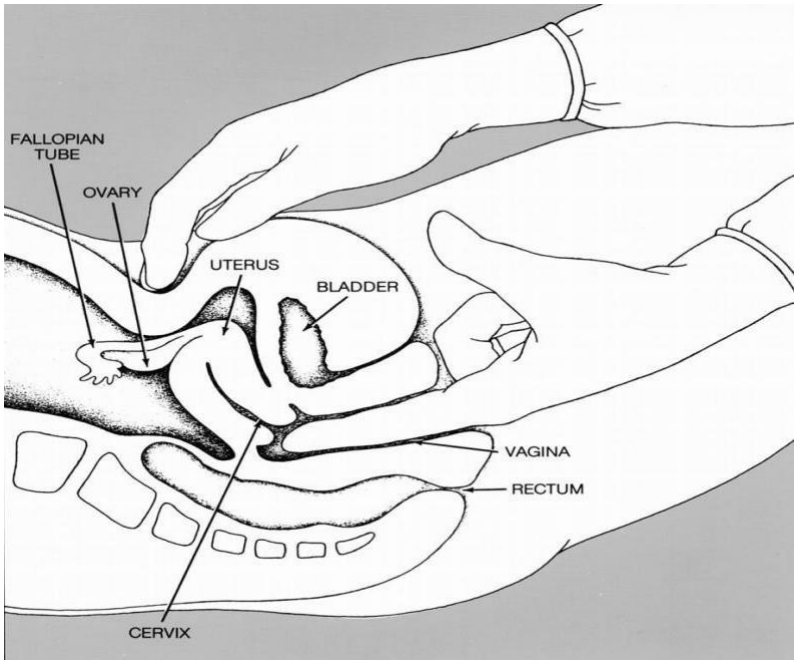
Additional research methods are used to clarify the diagnosis of gynecological patients, especiallywomen undergoingpreventive examinations.

Steps of bimanual examination

- greet the patient;
- identify the patient (name, age);
- inform the patient about the necessity of conducting the study;
- explain to the patient how the study is conducted;
- obtain permission to conduct research;
- wash hands;
- put on inspection gloves;
- look for changes of external genitalia

- ***Fig 1 - Signs on external inspection during the bimanual examination. A) Uterine prolapse, b) Genital warts, c) Bartholin's cyst***
- spread the labia majora with the first and second fingers of the left (right) hand, place the middle finger of the "dominant" hand at the level of the posterior adhesion, gently press on it to open the entrance to the vagina;
- carefully and slowly insert the middle finger, then the index finger into thevagina along

the back wall to the vault and cervix, bring the fourth and fifthfingers to thepalm, bring the thumb to the top;



- determine the length of the vaginal part of the cervix in centimeters;
- determine the consistency of the cervix (dense, soft);
- determine the patency of the external eye of the cervical canal (closed, a finger tip passes through);
- assess the painfulness of the cervical excursion;
- gently place the second palm on the stomach (above the symphysis) and moderately press to determine the bottom of the uterine body;
- remove the body of the uterus between two hands and determine:
- the position of the uterus relative to the cervix (anteflexio, retroflexio);
- the size of the uterus (normal, reduced, increased);
- consistency of the body of the uterus (tight-elastic, soft, compacted);
- mobility of the uterine body (relatively mobile, limited mobility);
- sensitivity during palpation (painful, painless);
- place your fingers in the bottom of the right lateral vault and, using bothhands,palpate the right vaginal vault and right uterine appendages, determine their size,mobility and painfulness;

- place the fingers in the bottom of the left lateral vault and, using both hands, palpate the left vaginal vault and the left appendages of the uterus,determine theirsize, mobility and painfulness;
- determine the capacity of the vaginal vaults;

To Complete the Examination

- Thank the patient and allow them to get dressed in private
- Dispose of your gloves and wash your hands
- Once the patient is dressed you can summarise the findings and suggest further investigations.

PRACTICAL LESSON №4
TOPIC: "PELVIMETRY"

Objective: To systematize and deepen knowledge regarding the measurement and assessment of the size of the female pelvis (external and internal pelvimetry). It is essential to understand the importance of this knowledge for pregnancy, the prognosis of the course of childbirth in women, and the health of infants. Additionally, this practical training aims to engage higher education students in analytical activities and encourage independent problem-solving while evaluating the level of knowledge acquisition. The main objectives of this practical training are: to foster cognitive activity andindependence, enabling students to creatively apply the lecture material. To deepen and consolidate the knowledge acquired during the study of this topic. To promote the development of creative thinking, allowing students to logicallyexpress and substantiate their ideas, actively listen to one another, and engage inconstructive criticism. Higher education students should be familiar with the algorithm of pelviometry (both external and internal), understand the normal dimensions of the large and smallfemale pelvis, the plane of the small pelvis, additional dimensions of the female pelvis, and the methods of measuring true conjugacy. They must also comprehend the significance of these measurements for predicting childbirth outcomes in women.

Basic concepts: external pelviometry, internal pelviometry, normal sizes of the large and small female pelvis, pelvic planes, additional sizes of the female pelvis, methods for measurement the obstetric conjugate.

1. **Control of fundamental knowledge (written assignments, written tests, online tests, in-person questioning on essential terminology, etc.). Requirements for the theoretical preparedness of higher education students toparticipate in practical classes.**

Knowledge requirements:

- Communication and clinical examination skills.
- Ability to determine the necessary clinical, laboratory, and instrumental tests and

evaluate their results.

- Responsibility and consistency in work.
- A tolerant attitude towards pregnant women.
- Accountability for the correctness of professional actions.

List of didactic units:

- External pelvimetry.
- Internal pelvimetry.
- Normal dimensions of the large and small female pelvis.
- Pelvic planes.
- Additional dimensions of the female pelvis.
- Methods for measuring the obstetric conjugate.

2. Questions (test tasks, problems, clinical situations) to check basic knowledge on the subject of the lesson.

Questions:

- What is external pelviometry?
- Explain internal pelviometry.
- Describe the normal dimensions of the large and small female pelvis.
- Define the pelvic plane.
- How are additional dimensions of the female pelvis measured?
- Explain the methods for measuring the true conjugate.

Typical tasks:

1. Calculate the size of the true (obstetric) conjugate (considering the Solovyov index) when the external conjugate is 20 cm and the circumference of the wrist joint is 14 cm.
Answer: The size of the true (obstetric) conjugate is 11 cm.

2. Determine the size of the true (obstetric) conjugate (considering the Solovyov index) when the external conjugate is 20 cm and the circumference of the wrist joint is 12.5 cm.

Answer: The size of the true (obstetric) conjugate is 12 cm

Test tasks:

1. Name the entities between which a diagonal conjugate is defined:
   A. Middle of the lower margin of the symphysis and apex of the coccyx.
   B. Midpoint of the superior outer margin of the symphysis andsupracondylar fossa.
   C. The lower edge of the pubic symphysis and the sacral capitulum.
   D. Middle of the upper-outer margin of the symphysis and apex of thecoccyx.
   E. Middle of the lower margin of the symphysis and supracondylar fossa.

2. One of the pelvic planes is bounded posteriorly by the junction of the 2nd and 3rdsacral vertebrae, anteriorly by the middle of the inner surface of the pubic symphysis,and laterally by the middle of the acetabulum. Name this plane:
   A. The plane of entry into the pelvis.
   B. The plane of the wide part of the pelvic cavity.
   C. The plane of the narrow part of the pelvic cavity.
   D. The plane of the pelvic outlet.
   E. The leading axis of the pelvis.

3. One of the pelvic planes is bounded posteriorly by the apex of the coccygeal cyst,anteriorly by the lower edge of the pubic arch, and laterally by the gluteal tuberosities. Name this plane:
   A. The plane of entry into the pelvis.
   B. The plane of the wide part of the pelvic cavity.
   C. The plane of the narrow part of the pelvic cavity.
   D. The plane of the pelvic outlet.
   E. The leading axis of the pelvis.

4. One of the pelvic planes is bounded posteriorly by the sacral cape, anteriorly by the iliac crests and the upper edge of the pubic symphysis, and laterally by the lin. terminalis. Name this plane:
   A. The plane of entry into the pelvis.
   B. The plane of the wide part of the pelvic cavity.
   C. The plane of the narrow part of the pelvic cavity.
   D. The plane of the pelvic outlet.
   E. The leading axis of the pelvis.

5. One of the pelvic planes is bounded posteriorly by the sacroiliac joint, anteriorly by the lower edge of the pubic symphysis, and laterally by the ischial bone ostiums.Name this plane:
A. The plane of entry into the pelvis.
B. The plane of the wide part of the pelvic cavity.
C. The plane of the narrow part of the pelvic cavity.
D. The plane of the pelvic outlet.
E. The leading axis of the pelvis.

6. What is the Solovyov Index?
A. Radiocarpal joint circumvention.
B. The plane of entry into the pelvis.
C. The leading axis of the pelvis.
D. Diagonal conjugate.
E. Lateral conjugate.

7. The dimensions of the Michalis rhombus are normally equal:
A. 12 x 12 cm.
B. 10 x 12 cm.
C. 11 x 10 cm.
D. 14 x 14 cm.
E. 8 x 9 cm.

8. What are the normal dimensions of the external conjugate (conjugata externa)?
A. 20-21 cm.
B. 17-18 cm.
C. 25-26 cm.
D. 30-31 cm.
E. 23-24 cm.

Correct ancwers
1-C, 2-B, 3-D, 4-A, 5-C, 6-A, 7-C, 8-A

3. Formation of professional abilities and skills (mastery of skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.).

Recommendations (instructions) for performing tasks (professional algorithms, orienting maps for the formation of practical skills and abilities, etc.).

Pelvimetry. Methodology:

1. Greet the patient warmly and politely.

2. Confirm patient`s details (name, date of birth).

3. Inform the patient about the importance of this medical examination.

4. Provide a detailed explanation of the examination.

5. Gain verbal consent.

6. Wash your hands.

7. Put on latex gloves.

8. Take a pelvimeter.

9. Place the buttons of the pelvimeter on the anterio–superior spines of iliac bones (normally D. spinarum equals 25-26 cm).

10. Move the buttons of the pelvimeter on the most distant locations of iliac cristae (normally D. cristarum equals 28-29 cm).

11. Place the buttons of pelvimeter on trochanteria major of femoral bones (normally D. trochanterica equals 30-31 cm).

12. Place the patient on her left side, bent her left leg in knee joint; measure the distance between the upper border of the pubic symphysis and the fossa supra-sacralis (normally C. externa equals 20-21 cm).

13. Remove your gloves and put on a new pair of latex gloves.

14. During vaginal examination measure the distance from the lower margin of the pubic symphysis to the sacral promontory (normally C. diagonalis equals 12.5-13 cm).

15. Communicate examination result.

16. Thank the patient.

17. Remove your gloves.

18. Wash your hands.

Conjugata externa (external conjugate): the distance from the middle of the upper-outer

edge of the symphysis to the supracondylar fossa is 20 cm. To measure this, place the woman on her side; the leg lying below should be bent at the hip and knee joints, while the other leg is extended. One end of the tazometer should be placed in the middle of the upper-outer edge of the

symphysis, and the other end is pressed against the supracondylar fossa which is located between the spinous processes of the fifth lumbar vertebraand the first sacral vertebra.

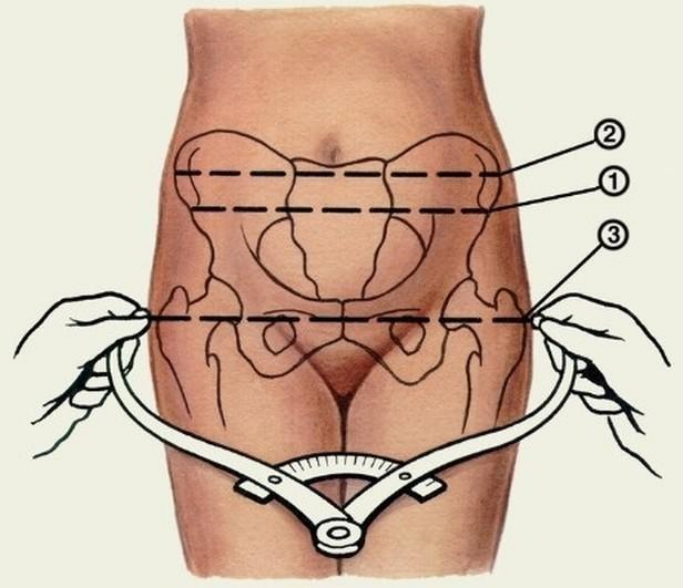


Figure. Measurement of the transverse dimensions of the pelvis:
1 - distantia spinarum (25-26 cm), 2 - distantia cristarum (28-29 cm), 3 - distantia trochanterica 30-31 cm).

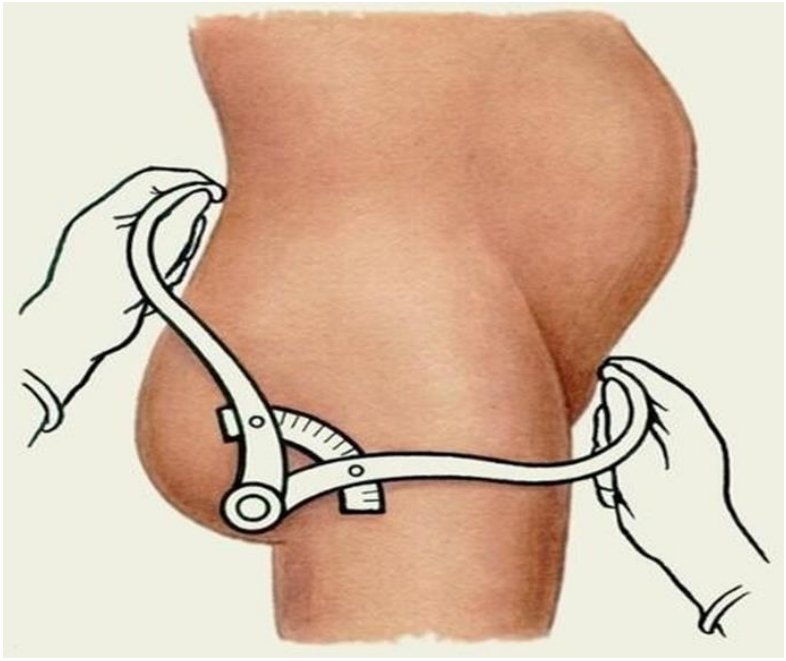


Fig. Measurement of the straight pelvic size - conjugata externa (externalconjugate) 20-21 cm.

Additional pelvic dimensions

Lateral conjugates (Kerner's) - the distance from the anterior superior (spina iliaca superioris) to the posterior superior (spina iliaca posterioris) iliac crest. Normally, itis 14.5-15 cm. In a narrow pelvis, it decreases to 13.5 cm or more. It's not just the absolute value that's important, but also the equality of the measurements on both sides. A difference of more than 1 cm indicates pelvic asymmetry.

Oblique conjugates are the distance between the right anterolateral pelvis and theleft posterolateral pelvis, and vice versa. Normally, these dimensions are the same and equal to 20-21 cm. A difference of more than 1 cm indicates an asymmetrical pelvis.

Height of the pubic symphysis - measured between its upper and lower edges. Normally, it is 5-6 cm. The higher the pubic symphysis, the smaller the true conjugate. The pubic angle is 90-100°.

The distance between the ischial tuberosity and the pubic symphysis. If it is 11.5 cm or more, you should expect a protracted labor.

The circumference of the pelvis is measured with a centimeter tape in the supine position, passing it under the sacrum, through the wings of the hip bones, and along

the anterior surface of the pubic symphysis. The normal value is 85 cm. A decrease in this measurement indicates a narrowing of the pelvis.

The straight dimension of the plane of exit from the pelvis is from the top of the coccyx to the lower edge of the symphysis; it is 9.5 cm. When the fetus passes through the pelvis, the coccyx moves posteriorly by 1.5-2 cm, and the straight size increases to 11-11.5 cm.

The transverse dimension of the plane of exit from the pelvis is between the inner surfaces of the ischial tuberosities. During measurement, 9.5 cm is obtained, and 1-1.5 cm is added to account for tissue thickness. The normal value is 11 cm.

The Michaelis rhombus is bounded by four points:

Above: supracoccygeal fossa (fossa under the spinous process of the V sacral vertebra)

Below: the top of the coccyx (beginning of the gluteal fold)

On the sides: depressions located above the posterior-upper auricles of the iliac wings. With a normal pelvic structure and size, the rhombus has the correct shape. The vertical dimension is 11 cm (which corresponds to the size of a normal conjugate), and the transverse dimension is 9-10 cm. The vertical dimension of the Michaelis diamond is approximately equal to the true conjugate (Tridentine conjugate), and the height of the upper triangle is 3-3.5 cm.

Diagonal conjugate - the distance from the lower edge of the pubic symphysis to the sacral capitulum. Normally, it is 12.5-13 cm. To measure it, perform a vaginal examination. If the sacral capitulum is not reached, the diagonal conjugate is considered normal. During the examination, the index and middle fingers move along the sacrum to the sacral capitulum. The tip of the middle finger is fixed on its top, and the edge of the palm rests on the lower edge of the symphysis. The point where the doctor's hand touches the lower edge of the symphysis is marked with the finger of the other hand. After removing the fingers from the vagina, measure the distance from the top of the middle finger to the marked point where the palm's edge touched the lower edge of the symphysis using a pelviometer or centimeter tape.

Fig. Measurement of a diagonal conjugate.

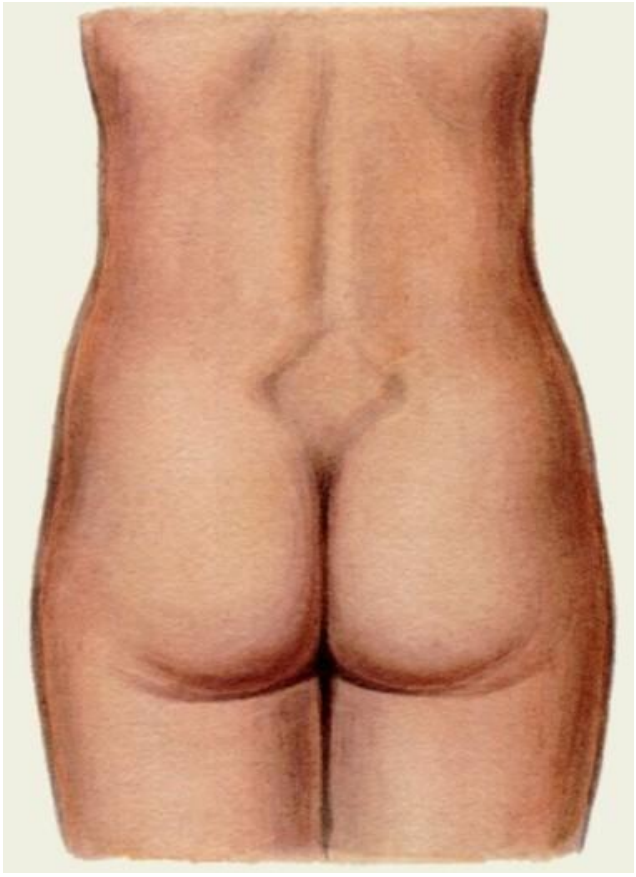


Fig. An overview of a section of the Michaelis rhombus. Normally, the rhombus is symmetrical, regular in shape, with a vertical dimension of approximately 11 cm and a transverse dimension of 10 cm.

PRACTICAL LESSON № 5

"EXTERNAL OBSTETRIC EXAMINATION (LEOPOLD'S MANEUVERS), FOETAL PRESENTATION, POSITION, AND LIE. AUSCULTATION OF THE FOETUS. CTG."

Objective: is to gain basic knowledge about methods of obstetrical examination, appropriate prenatal counseling and supervision in order to provide successful obstetric outcome.

Basic concepts: Leopold`s manoeuvers, fetal orientation, assessment of fetal head engagement, determination of estimated fetal weight, auscultation of the fetal heart tones, CTG.

1. Control of the reference level of knowledge (written work, written testing, online testing, frontal survey, etc.). Requirments for the theoretical readiness of students to perform practical classes.

Knowledge requirements:

SC1. Ability to collect medical information about the patient and analyze clinical data

SC 2. Ability to determine the necessary list of laboratory and instrumental studies and evaluate their results

SC 3. Ability to establish a preliminary and clinical diagnosis of the disease

SC 4. Ability to determine the necessary regime of work and rest in the treatment and prevention of diseases

SC 5. Ability to determine the nature of nutrition in the treatment and prevention of diseases

SC 6. Ability to determine the principles and nature of treatment and prevention of diseases

SC 8. Ability to determine tactics and provide emergency medical care

SC 9. Ability to carry out medical evacuation measures

SC 14. Ability to plan and carry out preventive and anti-epidemic measures for infectious diseases

List of didactic units:

- Leopold`s manoeuvers

- Fetal orientation
- Assessment of fetal head engagement
- Determination of estimated fetal weight
- Auscultation of the fetal heart tones
- CTG

2. Questions (test tasks, tasks, clinical situations) to test basic knowledge on the topic of the class.

Questions:

What is the purpose of the external obstetric examination in Obstetrics?

What is the first Leopold`s manoeuver (fundal grip)?

What is the purpose of the first Leopold`s manoeuver (fundal grip) in Obstetrics?

What is the second Leopold`s manoeuver (lateral grip)?

What is the purpose of the second Leopold`s manoeuver (lateral grip) in Obstetrics?

What is the third Leopold`s manoeuver (first pelvic grip)?

What is the purpose of the third Leopold`s manoeuver (first pelvic grip) in Obstetrics?

What is the fourth Leopold`s manoeuver (second pelvic grip)?

What is the purpose of the first Leopold`s manoeuver (second pelvic grip) in Obstetrics?

What is abdominal method of assessment of descent of the fetal head («fifth method»)?

What is fetal lie?

What is the difference between longitudinal, transverse and oblique fetal lie?

What is fetal presentation?

What is cephalic presentation?

What is the difference between vertex, median vertex, brow and face presentation?

What is breech presentation?

What is the difference between complete and incomplete breech presentation?

What is fetal position?

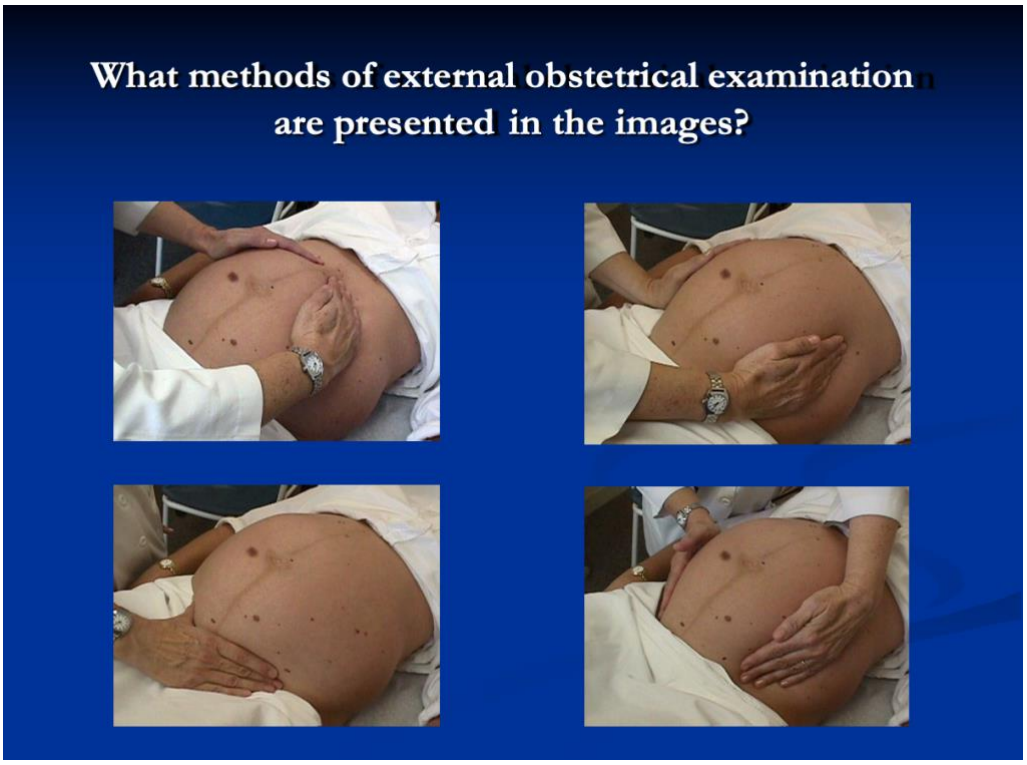
What is fetal attitude?

What are main rules during auscultation of the fetal heart tones?

What are main rules during fetal monitoring (CTG)?

Tasks

Task 1



Task 2

What method of external obstetrical examination is presented in the figures? What is the purpose of this obstetric examination?

Task 3

What method of external obstetrical examination is presented in the figures? What is the purpose of this obstetric examination?

Task 4

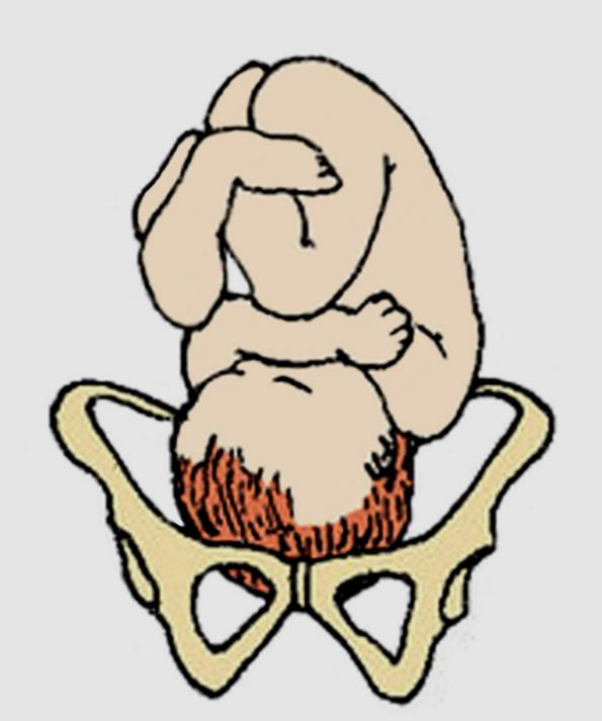
What method of external obstetrical examination is presented in the figures? What is the purpose of this obstetric examination?

Task 5

What method of external obstetrical examination is presented in the figures? What is the purpose of this obstetric examination?

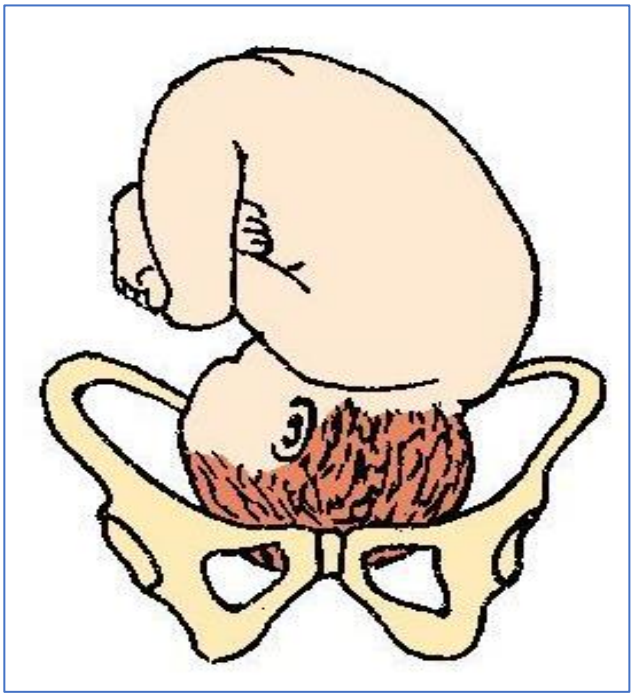
Task 6

Define the fetal lie, presentation and position



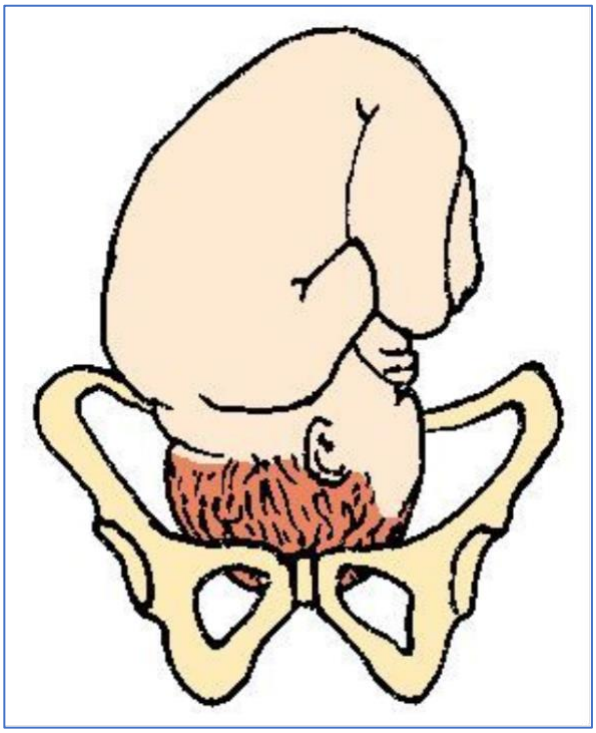
Task 7

Define the fetal lie, presentation and position



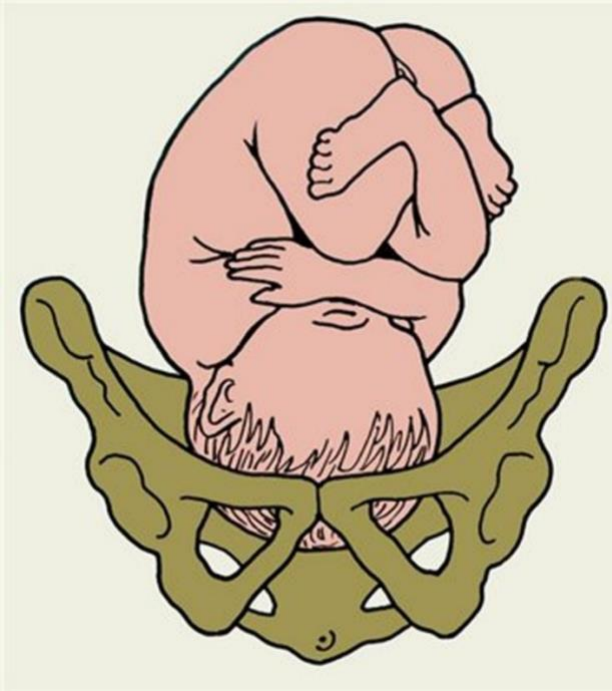
Task 8

Define the fetal lie, presentation and position



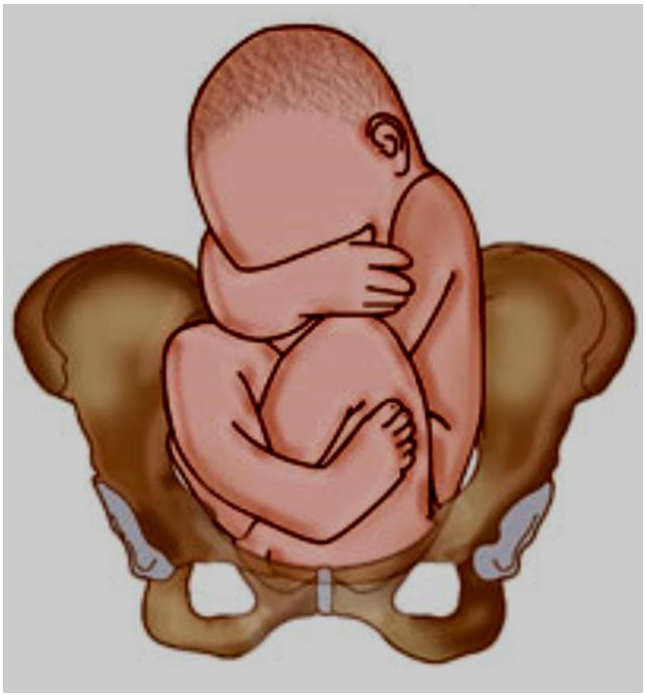
Task 9

Define the fetal lie, presentation and position



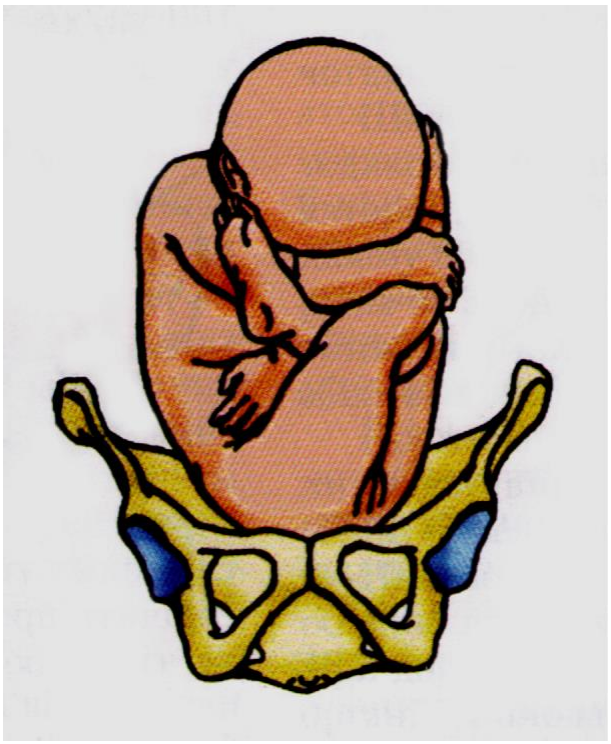
Task 10

Define the fetal lie, presentation and position

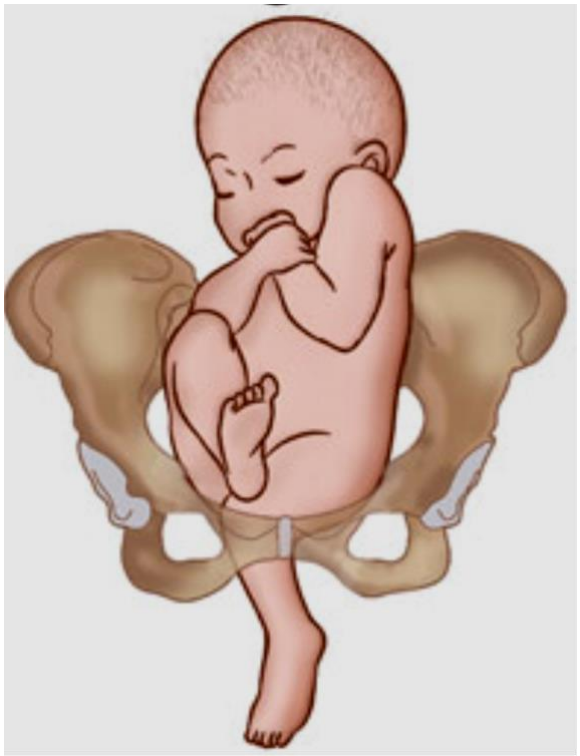


Task 11

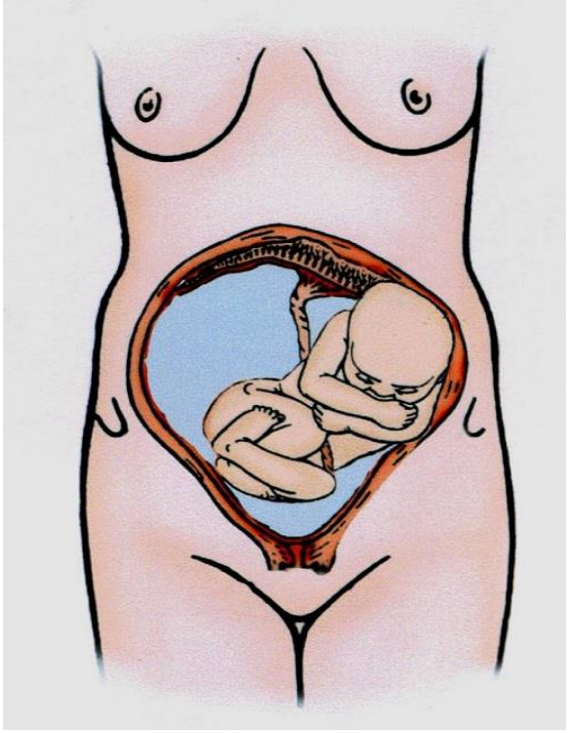
Define the fetal lie, presentation and position



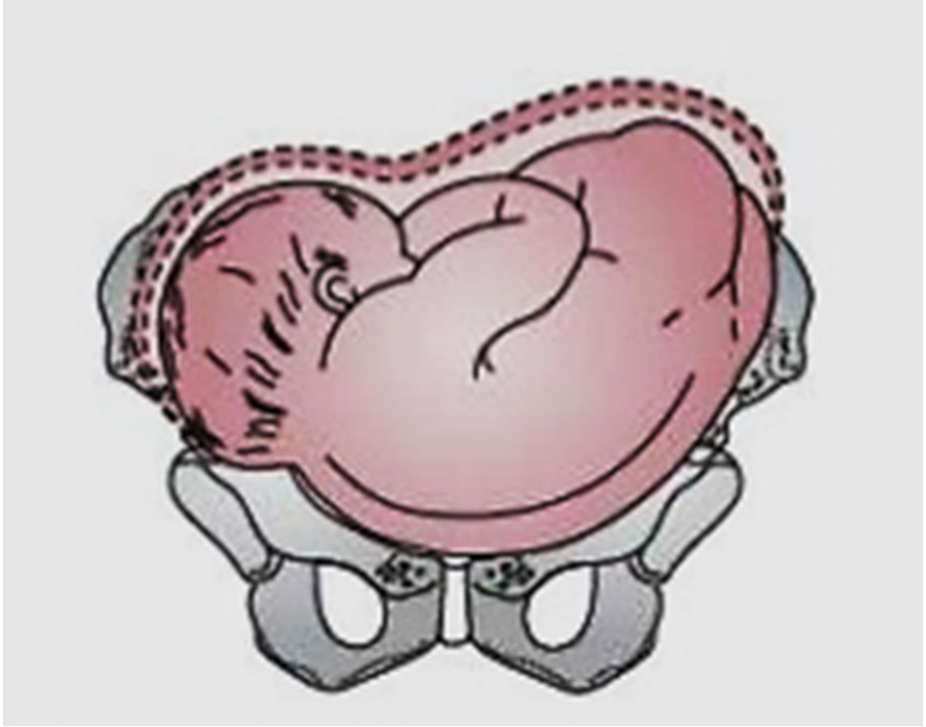
Task 12
Define the fetal lie, presentation and position



Task 13
Define the fetal lie, presentation and position



Task 14
Define the fetal lie, presentation and position



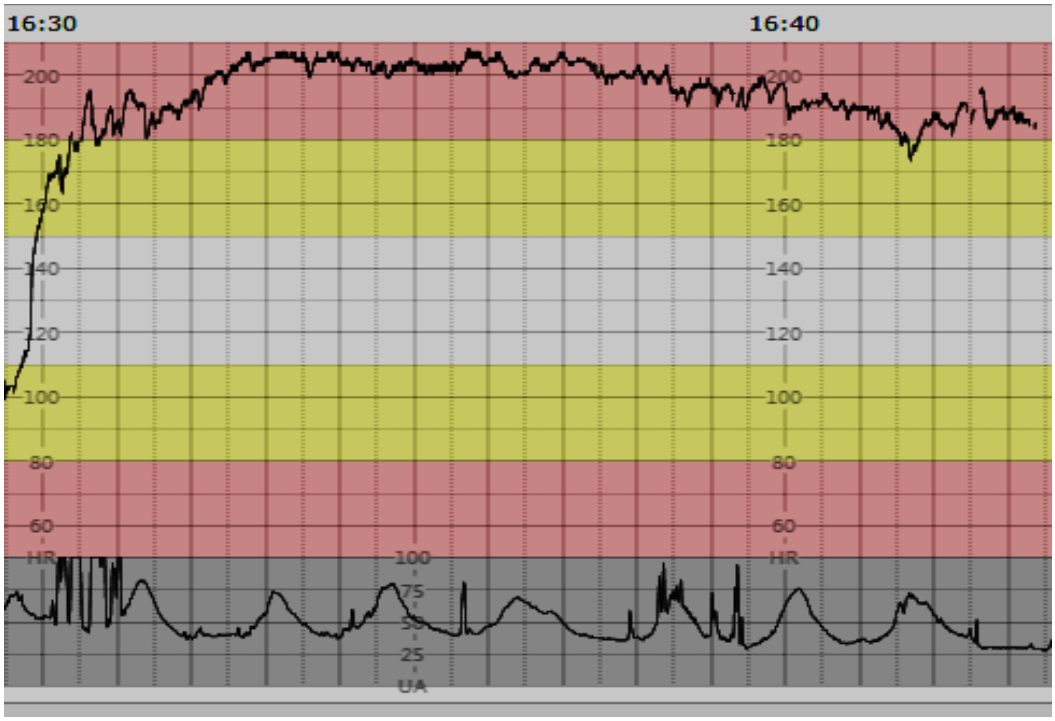
Task 15

Identify by the location of the point of auscultation the fetal lie, presentation and position

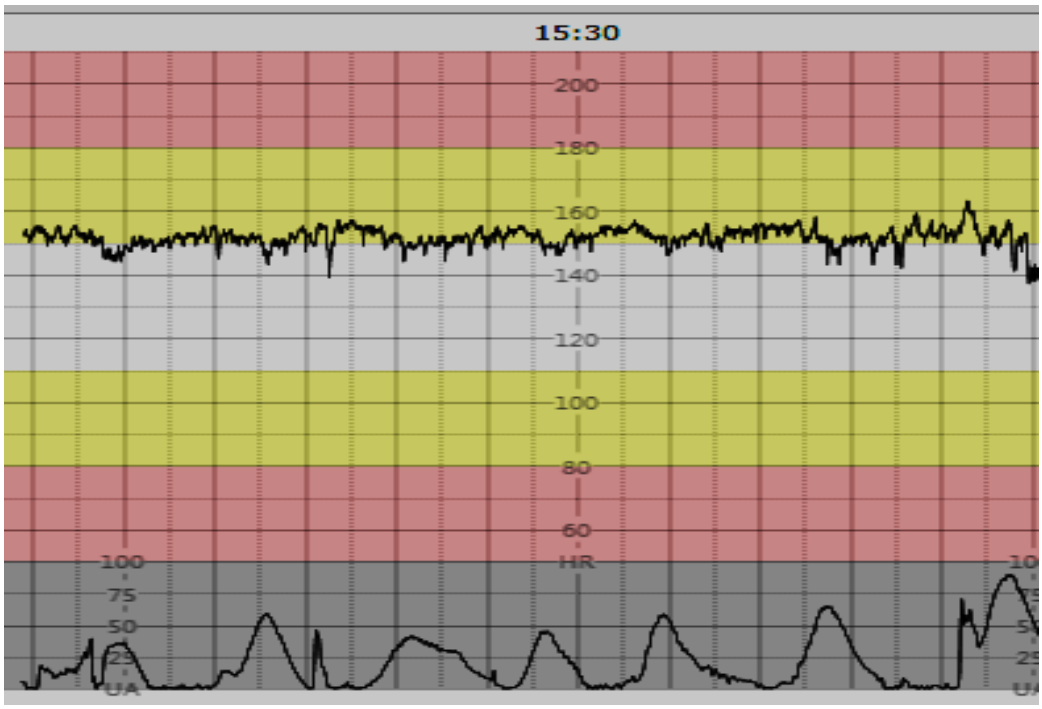
Task 16

Identify by the location of the point of auscultation the fetal lie, presentation and position

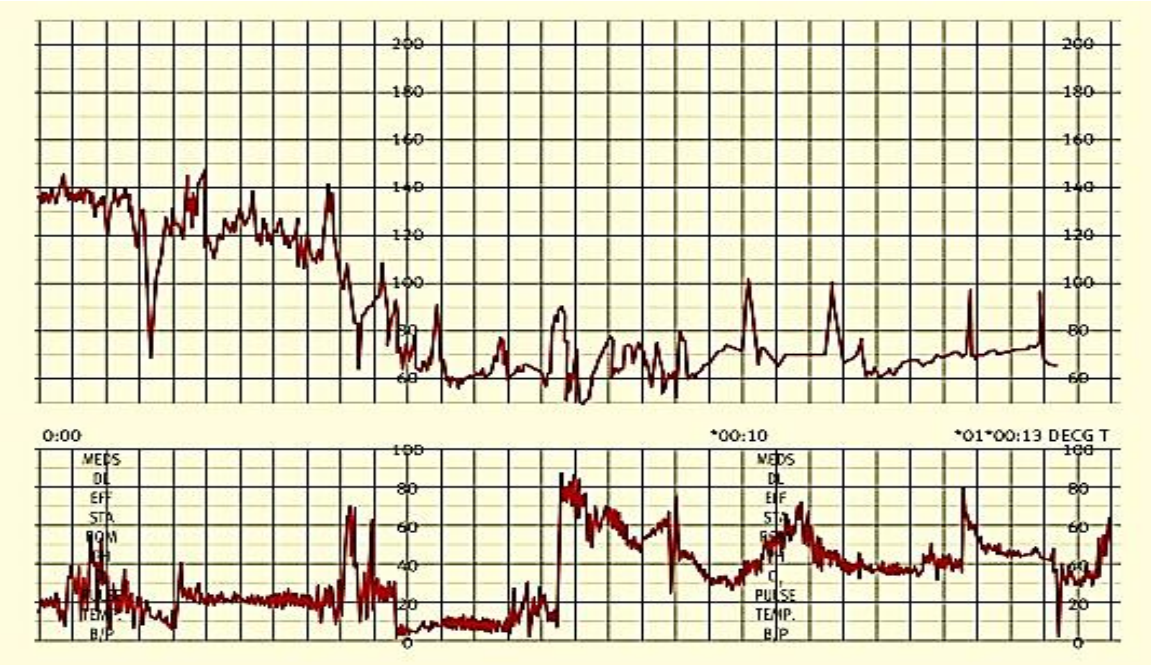
Task 17
Estimate this CTG



Task 18
Estimate this CTG

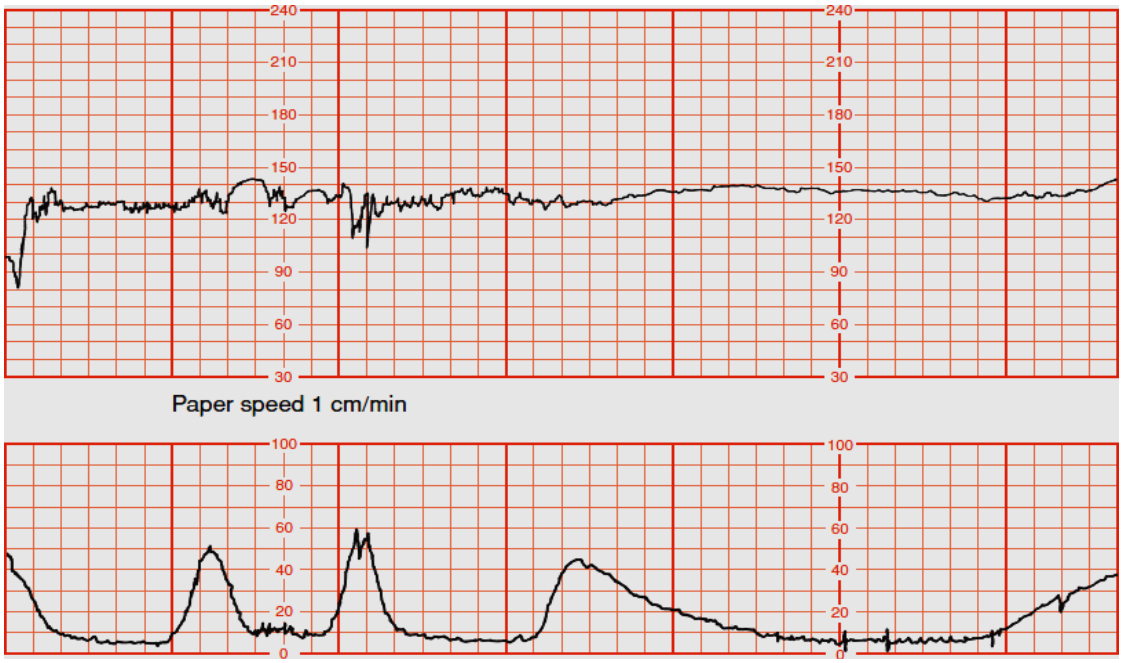


Task 19
Estimate this CTG



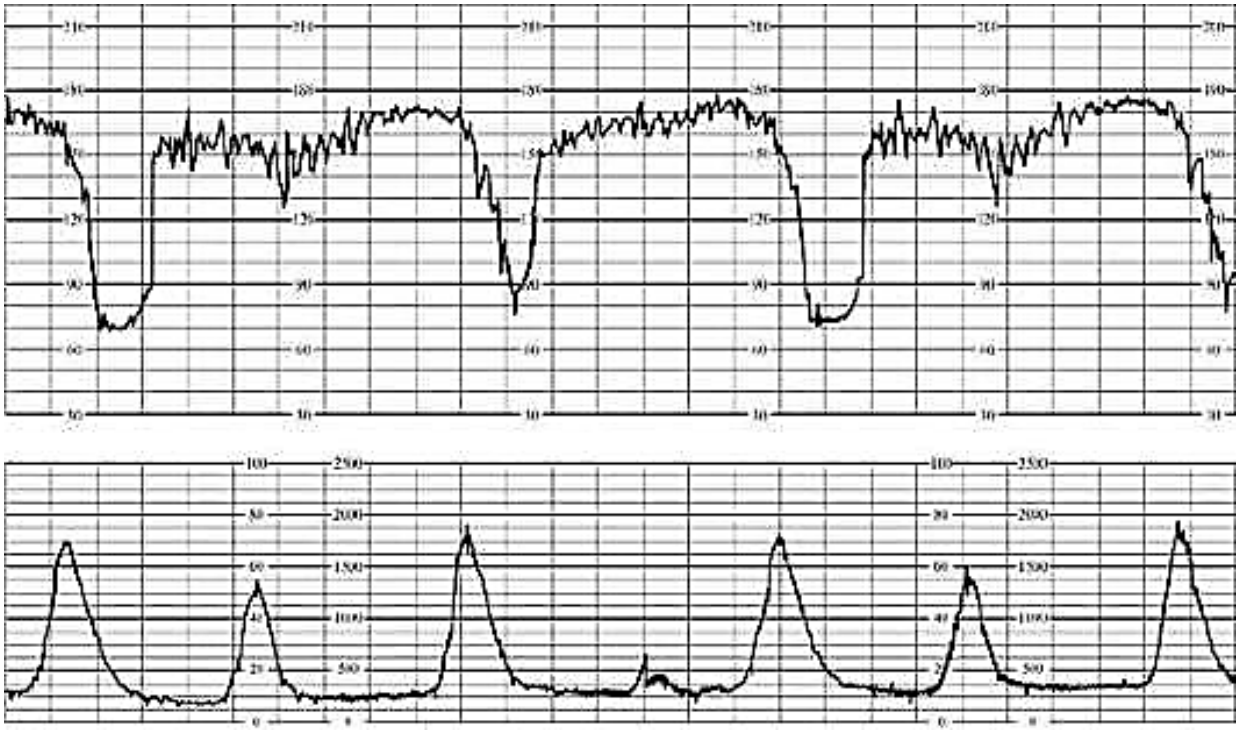
Task 20

Estimate this CTG



Task 21

Estimate this CTG



Clinical situation A

A primigravida has regular uterine contractions for 20 hours. The gestation age is 40 weeks. Labor pains last for 20 seconds every 7-8 minutes. Abdominal circumference is 100 cm, fundal height is 40 cm. Fetal heart rate is 128/min., auscultated on the left below the navel, closer to the linea nigra. Internal obstetric examination: cervical dilation is 6 cm, fetal head enters the pelvic inlet.

Define the fetal lie, presentation and position.

Calculate the estimated fetal weight.

Clinical situation B

A 27 y.o. primipara is in labor. The gestational age is 38 weeks. Uterine contractions take place every 1.5-2 minutes, last 45-50 seconds. Uterine activity began 10 hours

ago. Fetal heart rate is 114/min., auscultated on the right above the navel, closer to the midline of the abdomen. Internal obstetric examination: the cervix is 1 cm long, dense, cervical dilatation is 2 cm.

Define the fetal lie, presentation and position.

Clinical situation C

A 30-year-old multigravida has been in labor for 20 hours. The gestational age is 37-38 weeks. 2 hours ago the pushing stage began. Uterine contractions take place every 2-3 minutes, last around 30 seconds. Fetal heart rate is rhythmic, 85-90/min. Vaginal examination reveals complete cervical dilatation, the fetus is at +2 station (the fetal head is in the pelvic outlet).

Estimate the fetal condition.

Clinical situation D

A 18 y.o. parturient woman is in labor. The gestational age is 37 weeks. Uterine contractions take place every 3 minutes, last around 40 seconds. Uterine activity began 7 hours ago. Fetal heart rate is 157/min., auscultated on the right below the navel, closer to the lateral abdominal wall. Abdominal circumference is 100 cm, fundal height is 38 cm. Internal obstetric examination: cervical dilatation is 5 cm, the fetus is at -2 station (fetal head is pressed against the pelvic inlet). Amniotic sac is intact.

Define the fetal lie, presentation and position.

Calculate the estimated fetal weight.

Clinical situation E

A 37 y.o. primigravida woman has been having labor activity for 14 hours. Labor pains last for 20-25 seconds every 6-7 minutes. Gestation age is 39-40 weeks. Abdominal circumference is 100 cm, fundal height is 39 cm. The fetus heart rate is 142/min., auscultated on the left above the navel, closer to the midline of the abdomen. Internal obstetric examination revealed cervical effacement opening by 2 cm., the fetus is at -2 station (fetal head is pressed against the pelvic inlet). Fetal bladder is absent.

Define the fetal lie, presentation and position.

Calculate the estimated fetal weight.

Estimate the fetal condition.

Correct answers

Task 1 - Obstetric grips (Leopold`s maneuvers)

Task 2 - The first Leopold`s manoeuver (fundal grip); for determination of the uterine height and the gestational age

Task 3 - The second Leopold`s manoeuver (lateral grip); for determination of the fetal orientation in the uterus (fetal lie and fetal position)

Task 4 - The third Leopold`s manoeuver (first pelvic grip); for determination of the fetal presentation and mobility of presenting part

Task 5 - The fourth Leopold`s manoeuver (second pelvic grip); to determine fetal engagement

Task 6 - Longitudinal lie. Vertex presentation. Left occiput posterior (LOP) position.

Task 7 - Longitudinal lie. Vertex presentation. Left occiput anterior (LOA) position

Task 8 - Longitudinal lie. Vertex presentation. Right occiput anterior (ROA) position.

Task 9 - Longitudinal lie. Vertex presentation. Right occiput posterior (ROP) position.

Task 10 - Longitudinal lie. Complete breech presentation. Left sacrum posterior (LSP) position.

Task 11 - Longitudinal lie. Frank breech presentation. Right sacrum posterior (RSP) position.

Task 12 - Longitudinal lie. Single footling breech presentation. Left sacrum posterior (LSP) position.

Task 13 - Oblique lie, left posterior position

Task 14 - Transverse lie. Right acromidorsoanterior position.

Task 15 - Longitudinal lie. Cephalic presentation. Right occiput anterior (ROA) position.

Task 16 - Longitudinal lie. Breech presentation. Left sacrum anterior (LSA) position.

Task 17 - Expressed tachycardia

Task 18 - Normal rhythm

Task 19 - Expressed bradycardia

Task 20 - Monotonic rhythm

Task 21- Late decelerations

Clinical situation A - Longitudinal lie. Vertex presentation. Left occiput anterior (LOA) position; 4000 ± 200 g

Clinical situation B - Longitudinal lie. Breech presentation. Right sacrum anterior (RSA) position.

Clinical situation C - Fetal distress

Clinical situation D - Longitudinal lie. Vertex presentation. Right occiput posterior (ROP) position; 3800 ± 200 g

Clinical situation E - Longitudinal lie. Breech presentation. Left sacrum anterior (LSA) position; 3900 ± 200 g; normal rhythm (normal fetal condition)

3. Formation of professional abilities and skills (mastery of skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.). Recommendations (instructions) for performing tasks (professional algorithms, orienting maps for the formation of practical skills and abilities, etc.).

External obstetric examination maneuvers (the Leopold's maneuvers)

The first Leopold`s manoeuver (fundal grip)

The purpose is

- to detect the standing of the fundus of uterus for determination of the gestational age
- to detect the part of fetus located close to the fundus of uterus

The doctor stands on the right of the pregnant woman, facing her, puts both palms on the fundus of uterus, detects the height of its standing over the womb and the part of fetus located close to the fundus of uterus

The second Leopold`s manoeuver (lateral grip)

The purpose is

- to detect the fetal orientation in the uterus (fetal lie and fetal position)

Both palms are removed from the fundus of uterus and in turn palpate the parts of fetus directed to the lateral uterine walls. The back and small parts of fetus are found. At irregular position the head is adjacent to one of the lateral uterine walls.

The third Leopold`s manoeuver (first pelvic grip)

The purpose is

- to detect the character of the presenting part of fetus (presentation)

With one hand, usually the right one, which is lying slightly above the pubis, the presenting part of fetus is covered, after what cautious movements are made with this hand to the right and to the left. At cephalic presentation a dense, spheric part is detected, which has well-defined contours. If the fetal head is not yet fitted into the area of brim, it easily moves between the thumb and the rest of fingers. At pelvic presentation a voluminous soft part is detected, it is not spheric and can`t move.

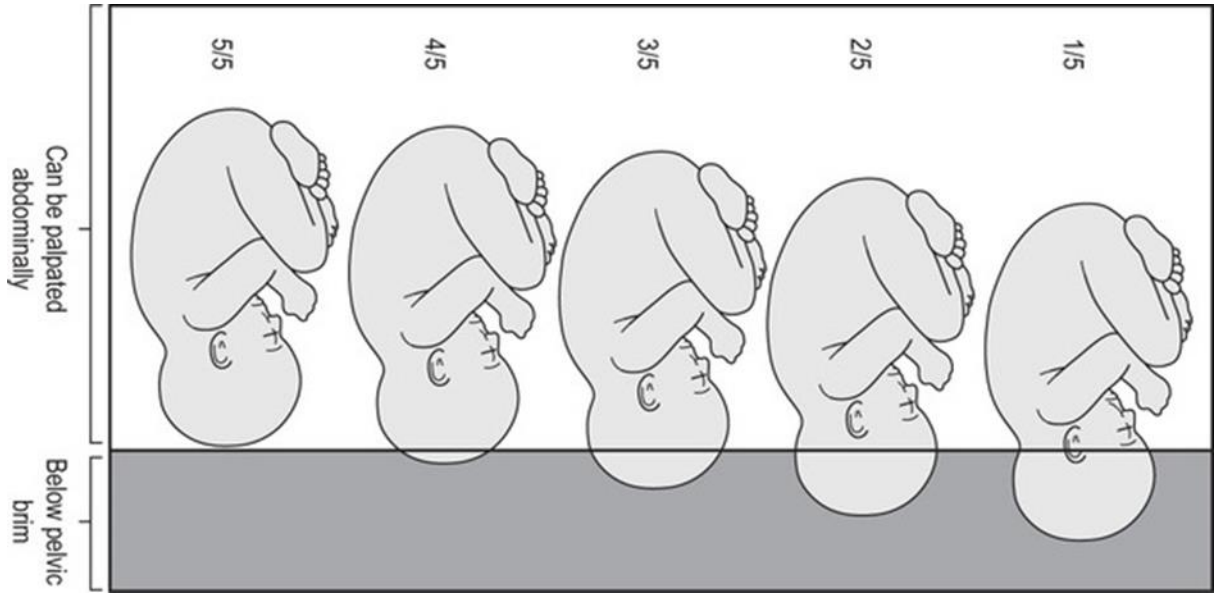
The fourth Leopold`s manoeuver (second pelvic grip)

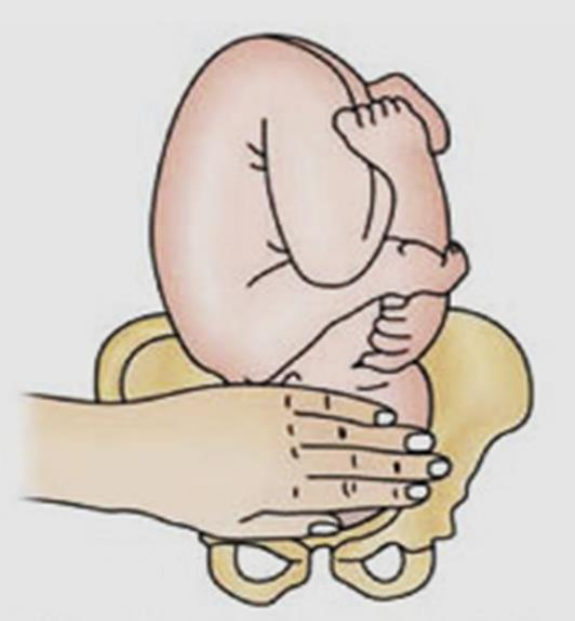
The purpose is

- to detect the level of presenting part standing (of the head in particular) relative to the area of brim and to the degree of its fitting.

The doctor stands on the left, with the face to the lower extremities of the pregnant woman, puts both hands with palms down on the lateral parts of the lower uterine segment and palpates accessible parts of the presenting part of fetus, trying to get with the fingertips between the presenting part and lateral parts of the area of brim

Descent of the fetal head determined by abdominal examination («fifth method»)





Engagement of the fetal head is measured in fifths, which is the amount of fetal head palpated above the brim of the pelvis.

5/5 The fetal head is five-fifths palpable; that is, the whole head can be palpated above the brim of the pelvis.

4/5 Four-fifths of the fetal head is palpable above the brim of the pelvis; one-fifth is therefore below the pelvic brim.

3/5 Three-fifths is palpable above the brim of the pelvis and two-fifths below.

2/5 Two-fifths palpable above the brim of the pelvis and three-fifths below.

1/5 One-fifth of the fetal head is palpable above the pelvic brim and four-fifths are below; the head is described as ‘deeply engaged’.

It is very important to be able to distinguish between 3/5 and 2/5 head palpable above the pelvic brim. If only 2/5 of the head is palpable, then engagement has taken place and the possibility of disproportion at the pelvic inlet can be ruled out.

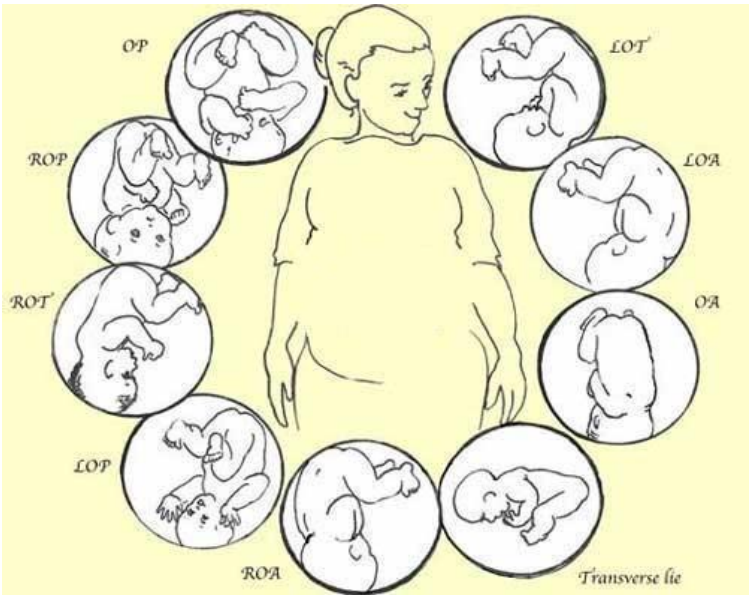
Determination of estimated fetal weight (FW)

FW is calculated by the following formula:

FW = AC (cm) × FH (cm) ± 200 g

More reliably fetal weight is estimated by ultrasonic fetometry

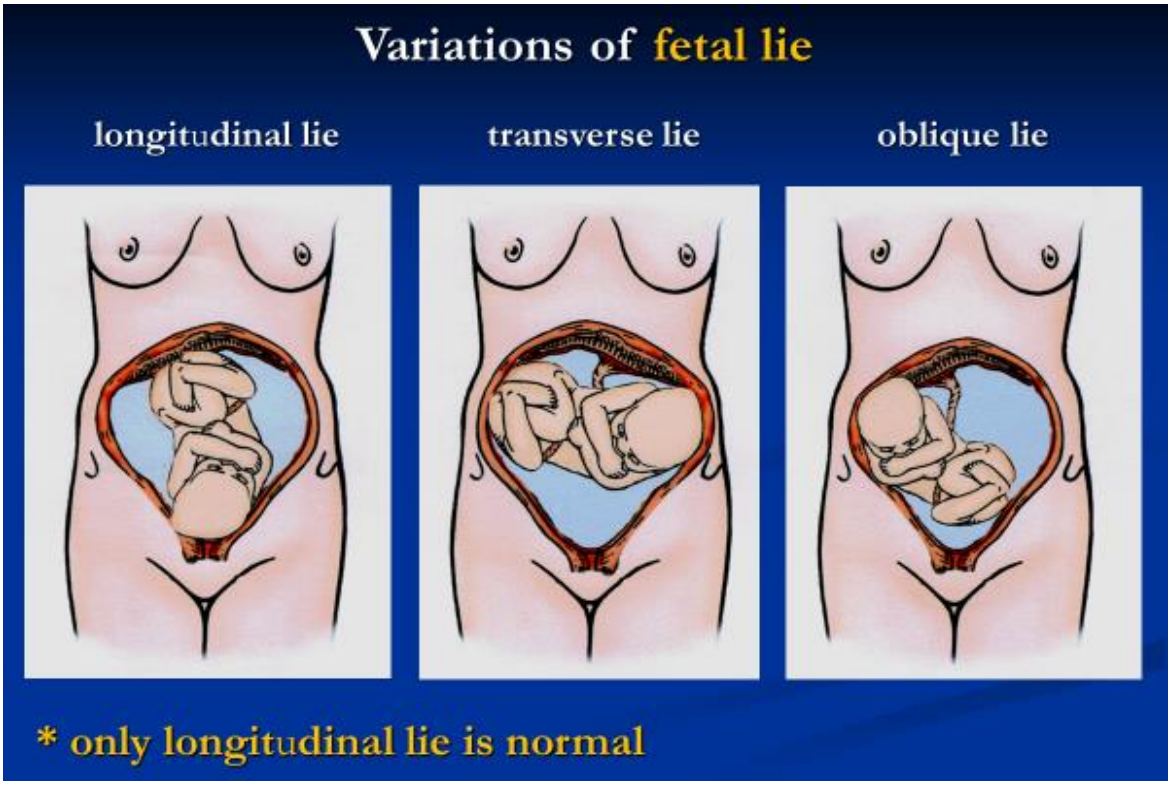
Fetal orientation



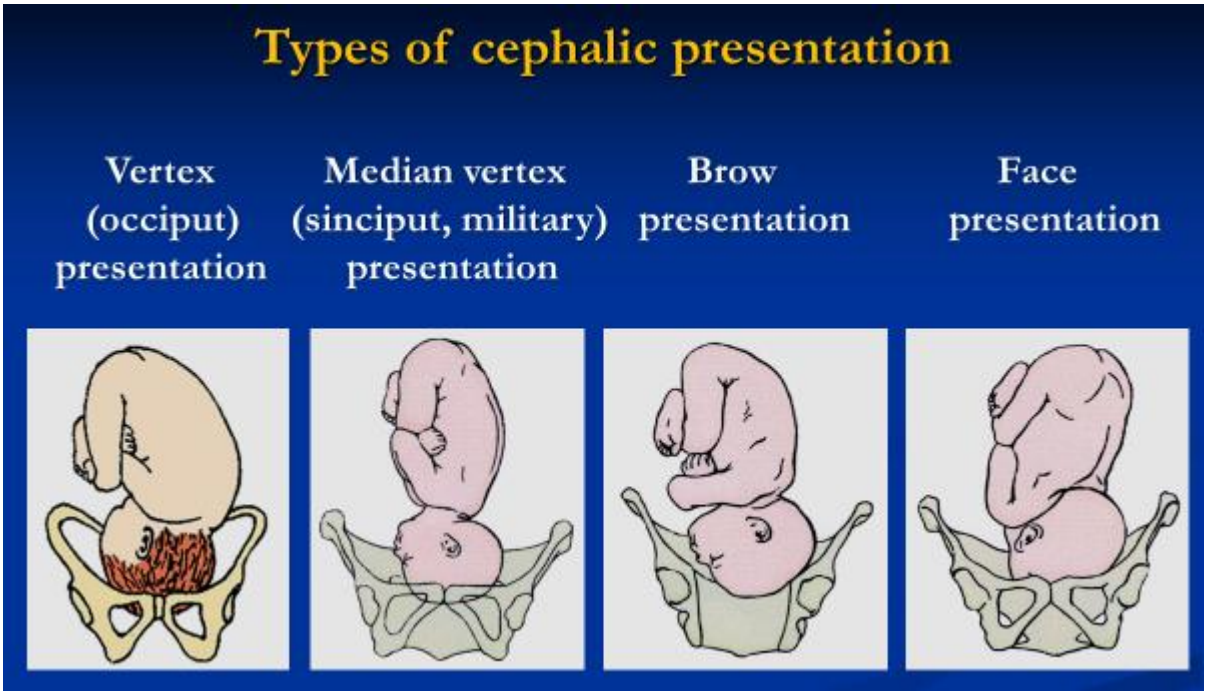
For the determining of the fetal orientation such key terms are used in Obstetrics:

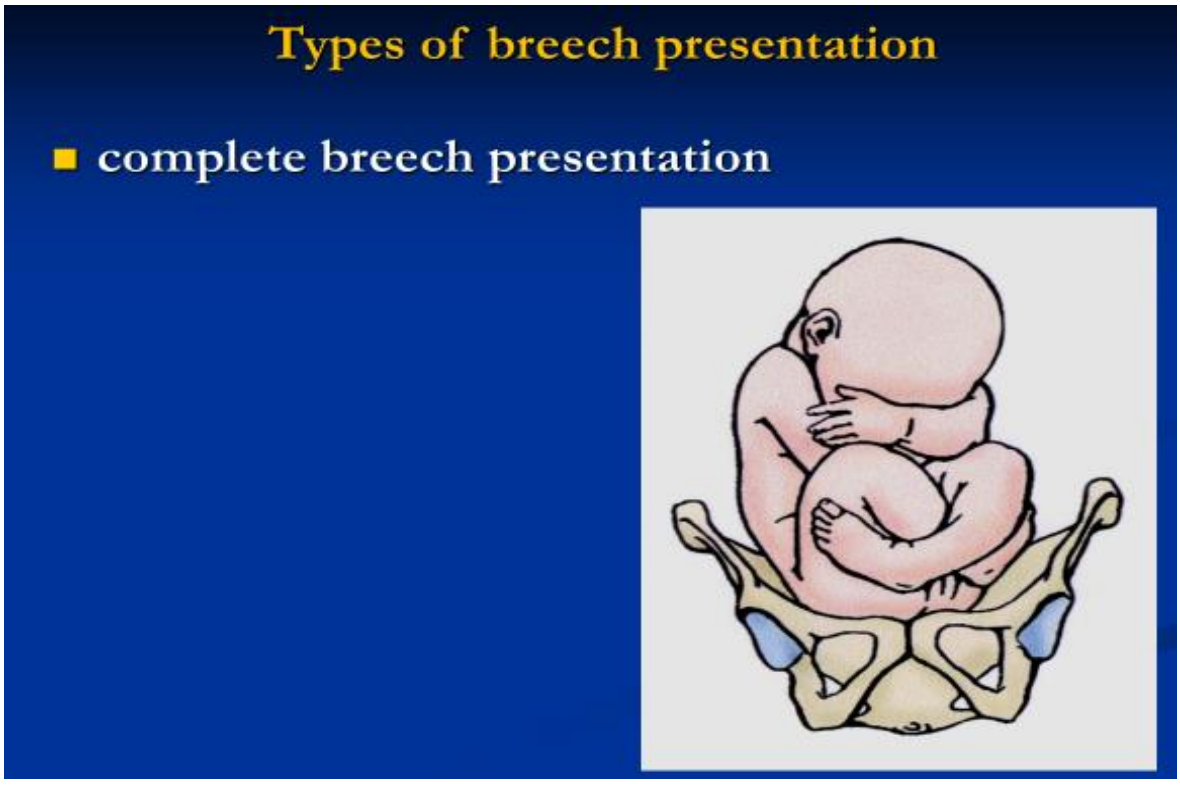
- fetal lie
- fetal presentation
- fetal position

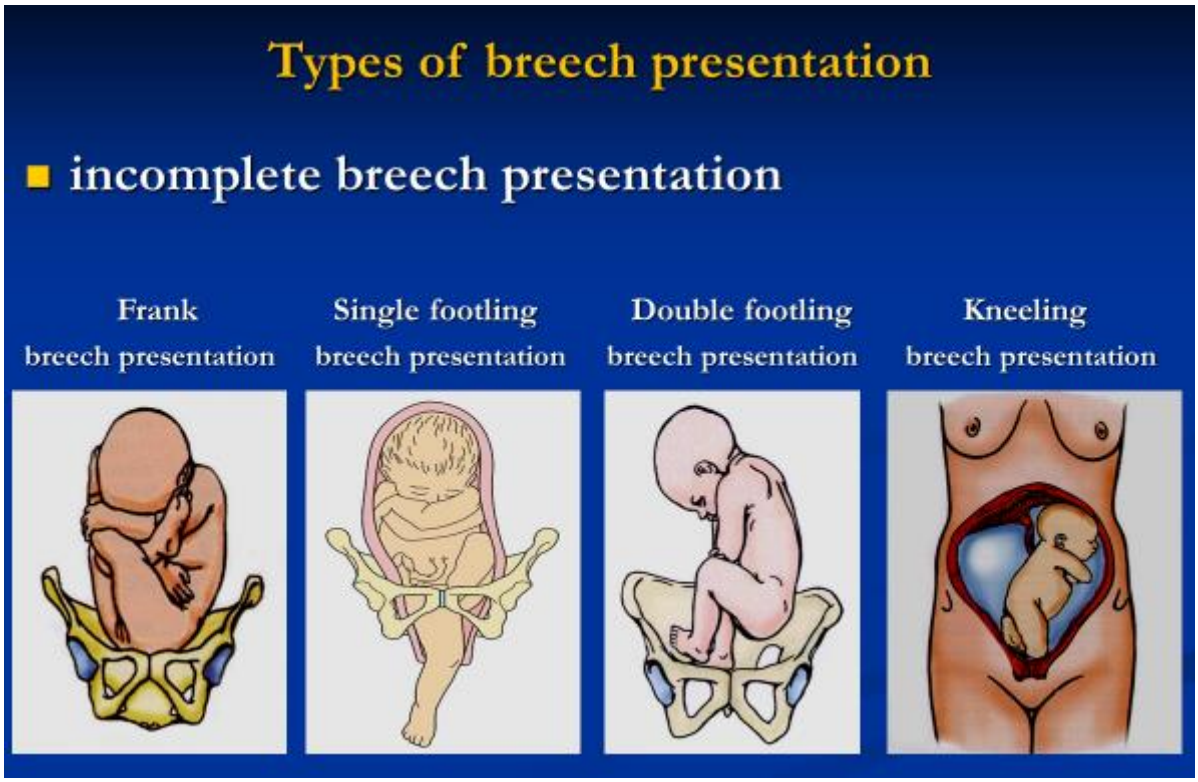
The fetal lie refers to the relationship between the longitudinal axis of the baby with respect to the longitudinal axis of the mother (longitudinal lie, transverse lie, oblique lie).



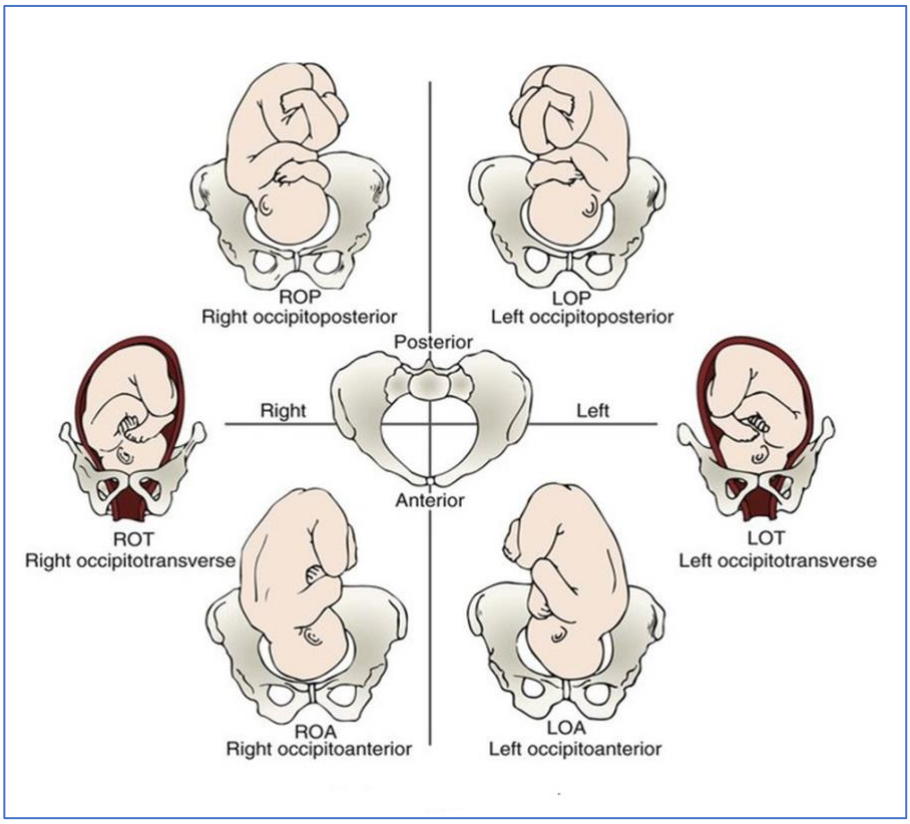
The fetal presentation refers to the part of the baby that is overlying the maternal pelvis.



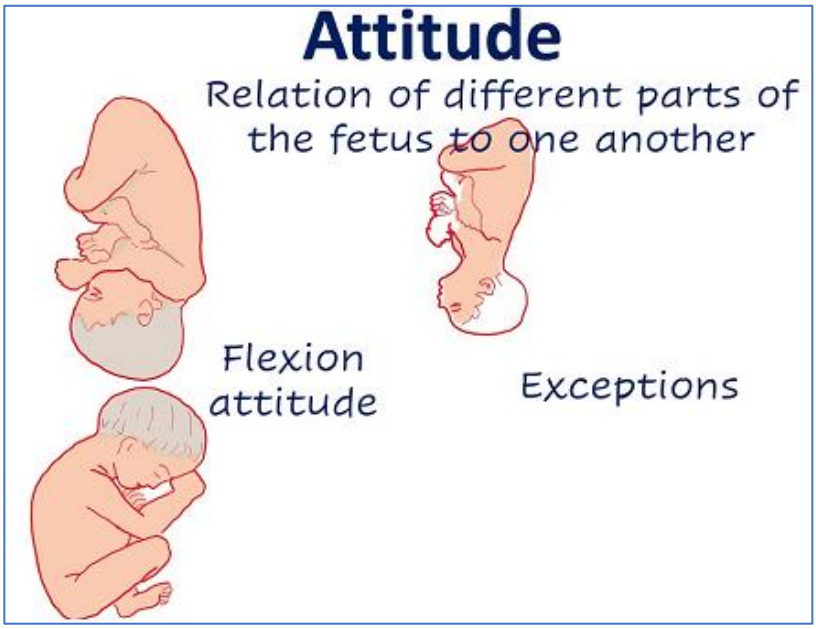




The fetal position is the orientation of the fetal presenting part to the right/left, anterior/posterior/transverse side of the maternal birth canal



The fetal attitude describes the position of the parts of the baby's body. The normal fetal attitude is commonly called the fetal position. The head is tucked down to the chest. The arms and legs are drawn in towards the center of the chest.



Fetal heart rate monitoring

Fetal heart rate monitoring is the measuring of the fetal heart rate during pregnancy and the labor by using a special instrument.

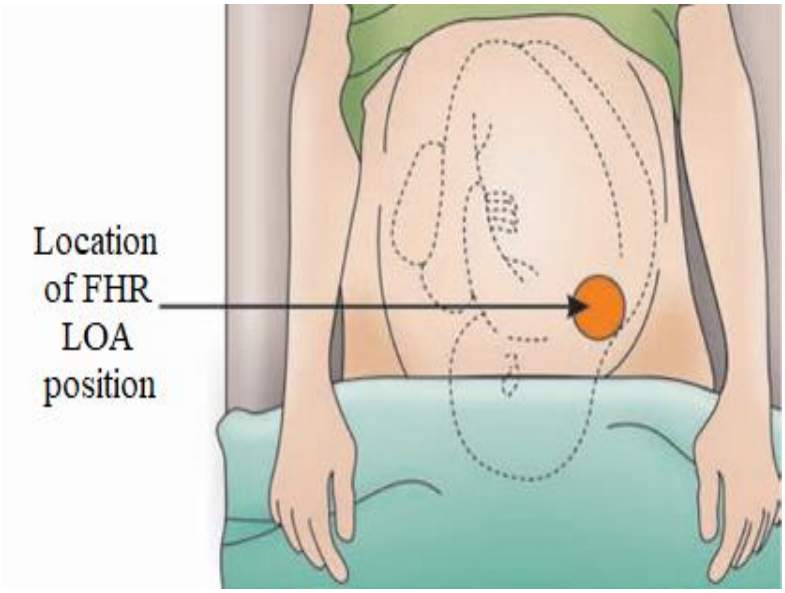
Types of fetal heart rate monitoring

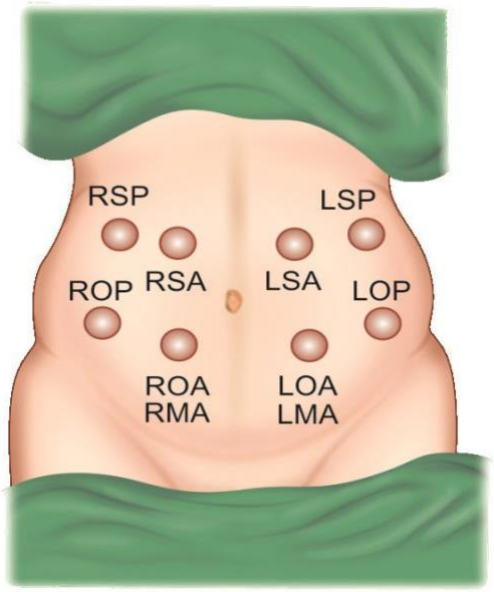
- Intermittent auscultation
- Electronic fetal monitoring

Intermittent auscultation

It is a method of listening to the fetal heartbeats for about 60 seconds by using a fetal stethoscope.

Sites for auscultation of fetal heart tones



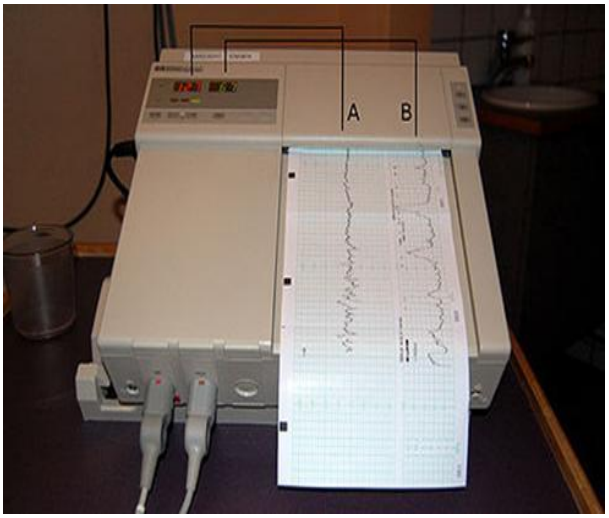


Doppler Fetal Monitor (Ultrasound Transducer)

A Doppler fetal monitor is a hand-held ultrasound transducer used to detect the fetal heartbeat for prenatal care. It uses the Doppler effect to provide an audible simulation of the heartbeat. Some models also display the heart rate in beats per minute (BPM). Use of this monitor is sometimes known as Doppler auscultation. Hand held Dopplers are pocket-sized, battery-operated devices that send out high-frequency ultrasound waves.

Electronic fetal monitoring

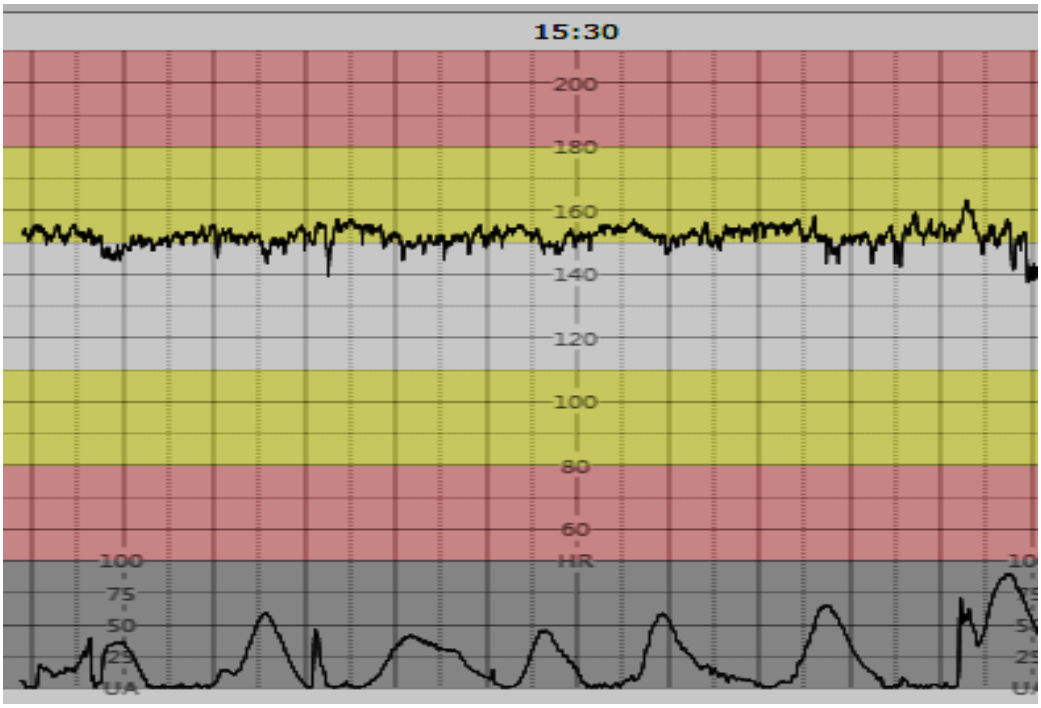
Electronic fetal monitoring, also called cardiotocography (CTG), is when the baby's heart rate is monitored with an ultrasound machine while the mother's contractions are monitored with a pressure sensor. Both of these sensors are linked to a recording machine, which shows a print-out or computer screen of the baby's heart rate and the mother's contractions shown together, often called EFM tracings. The monitor is assessing the baseline fetal heart rate and how it changes with contractions. It records any increases in the fetal heart rate (accelerations) and any decreases (decelerations), as well as the frequency and duration of the mother's uterine contractions



Cardiotocography interpretation begins with the assessment of four basic FHR features:

- Baseline
- Variability
- Accelerations
- Decelerations

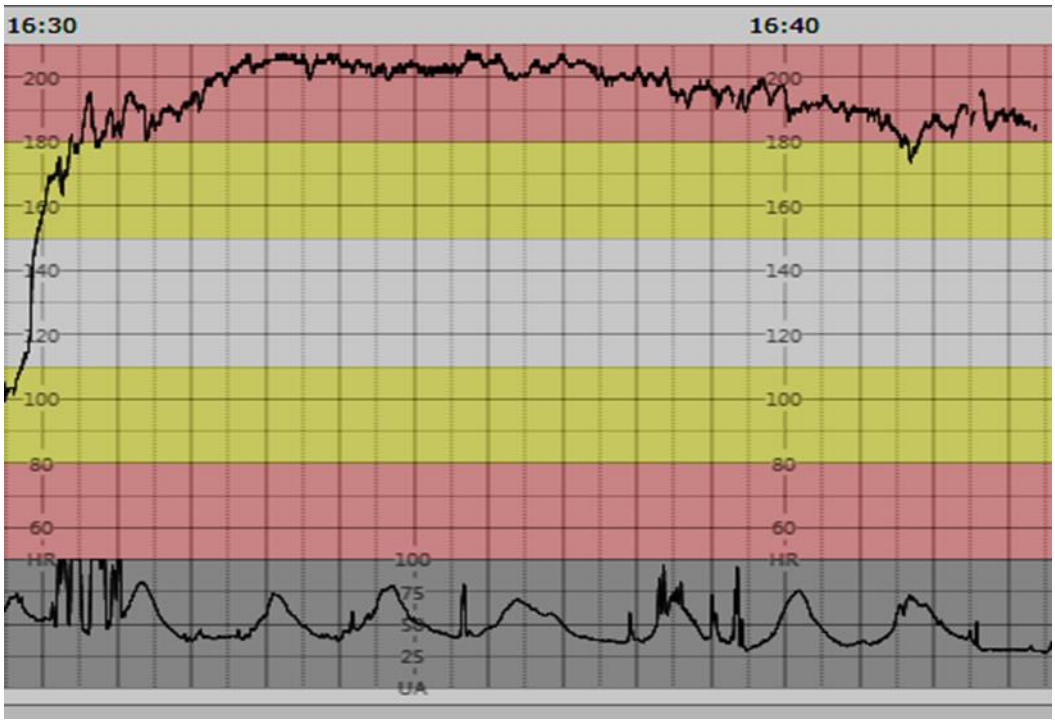
Baseline is defined as the mean level of the most horizontal and less oscillatory FHR segments. It is estimated in 10-minute periods and expressed in beats per minute (bpm). A fetus has a normal baseline if its value lies between 110 and 160 bpm.



Tachycardia refers to a baseline value above 160 bpm lasting more than 10 minutes.

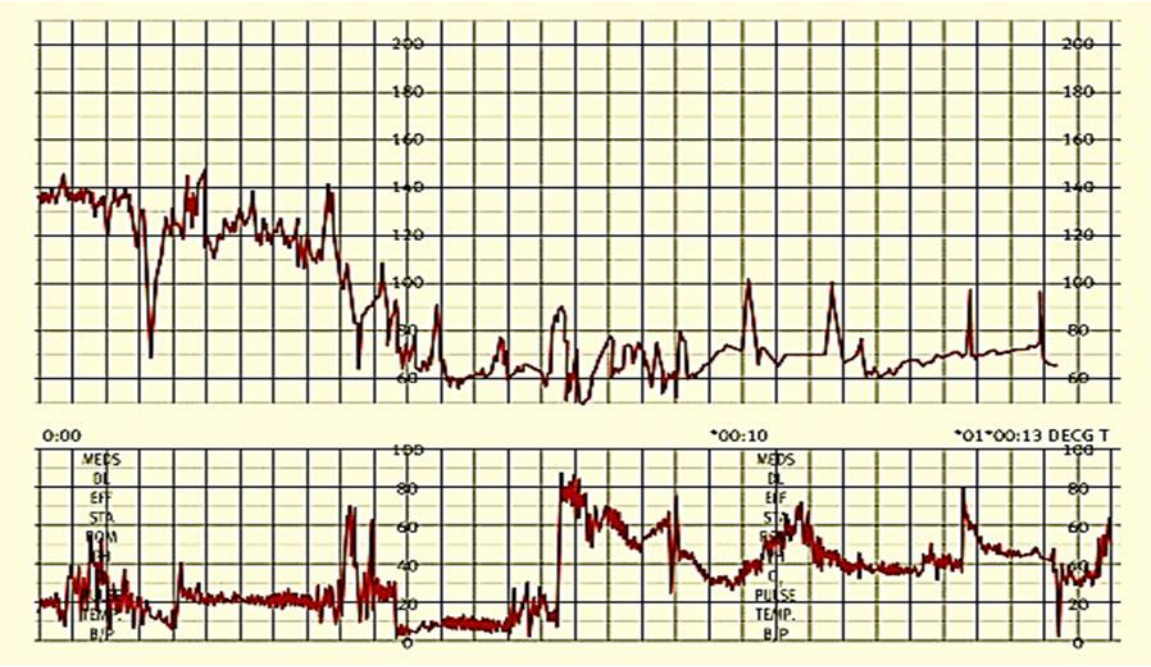
Maternal pyrexia is the most frequent cause, and it may be of extrauterine origin or associated with intrauterine infection. In the initial stages of a non-acute fetal hypoxemia, catecholamine secretion may also result in tachycardia. Other less frequent causes are the administration of beta-agonists, parasympathetic blockers, and fetal arrhythmias such as supraventricular tachycardia and atrial flutter.

Expressed Tachycardia refers to a baseline value ≥ 180 bpm.



Bradycardia is a baseline value below 110 bpm lasting more than 10 minutes. Maternal hypothermia, administration of beta-blockers, and fetal arrhythmias such as atrial-ventricular block are other less frequent causes

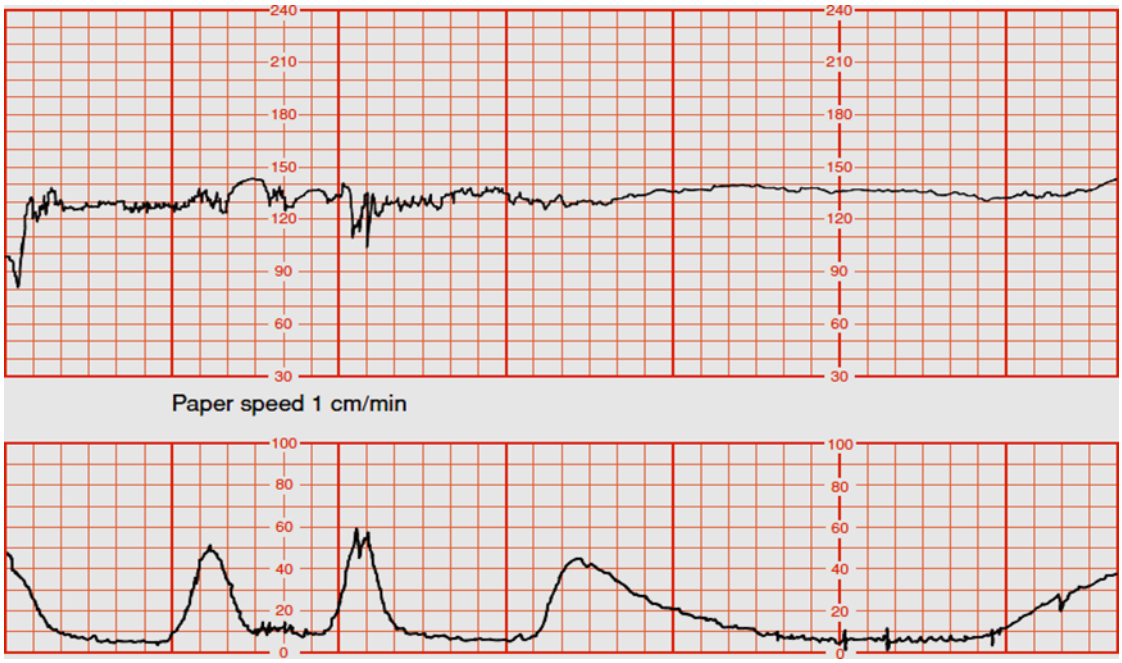
Expressed bradycardia refers to a baseline ≤ 100 bpm.



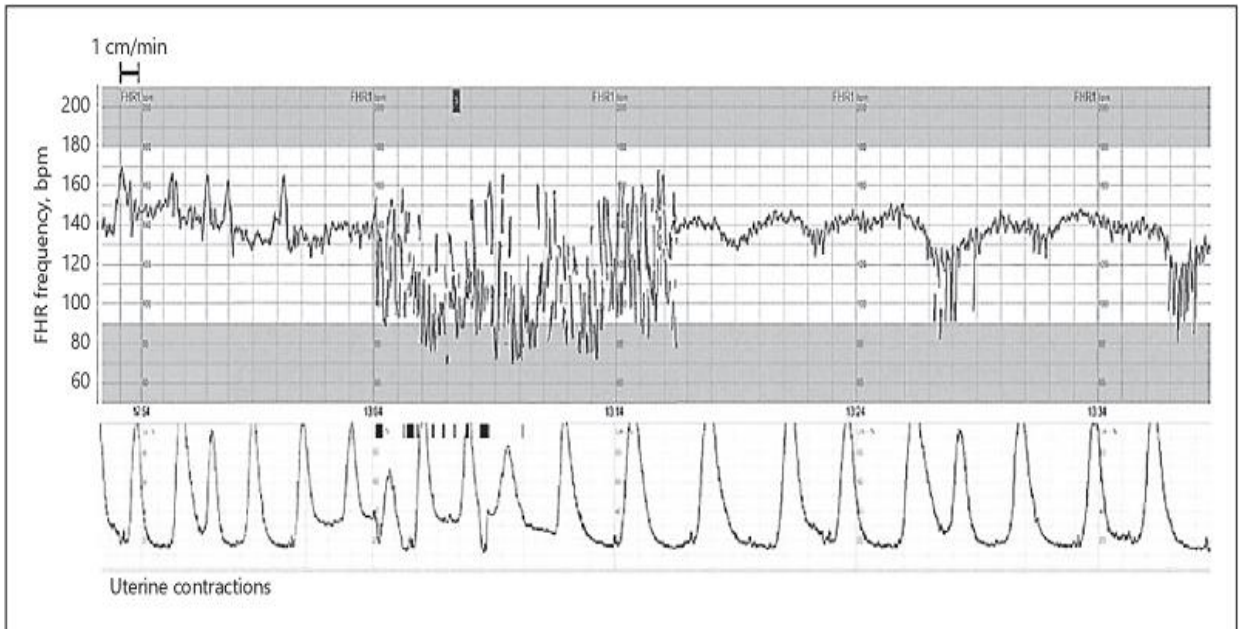
Variability corresponds to the fine oscillations in the FHR signal, and is visually evaluated as the average bandwidth amplitude in 1-minute segments.

Normal variability is defined as a bandwidth amplitude of 5–25 bpm.

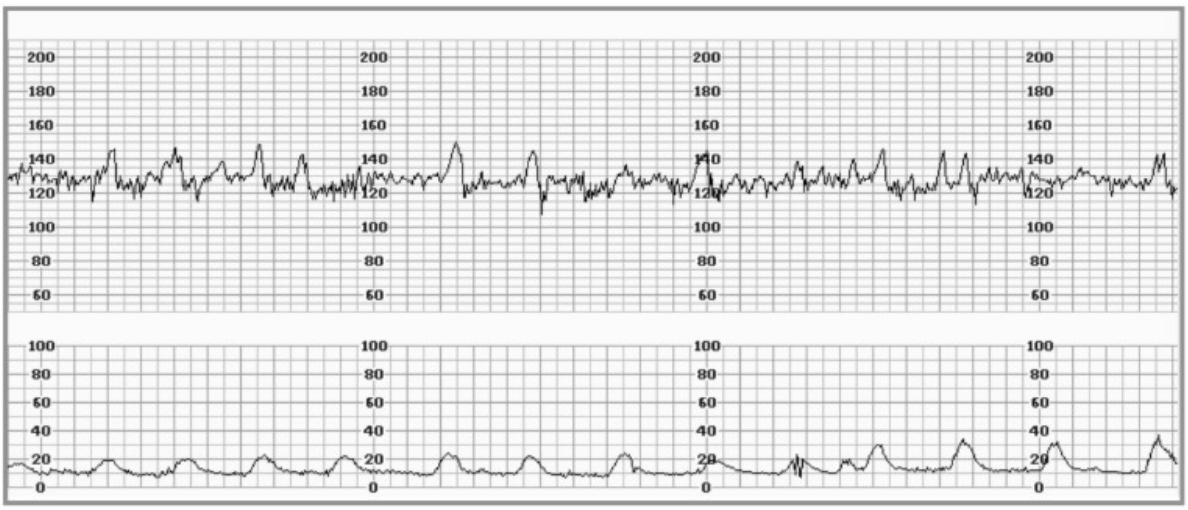
Reduced variability is a bandwidth amplitude below 5 bpm for more than 50 minutes in baseline segments, or for more than 3 minutes during decelerations.



Increased variability (saltatory pattern) corresponds to a bandwidth exceeding 25 bpm for more than 30 minutes.

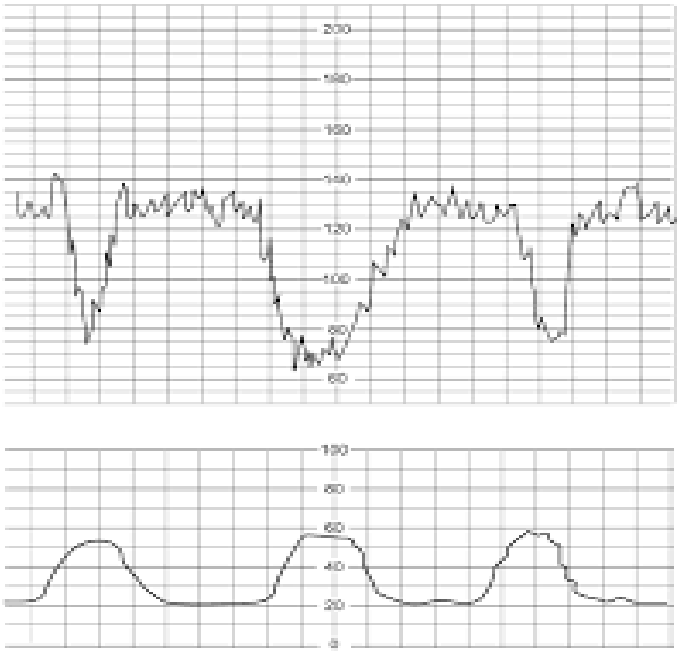


Accelerations are abrupt increases in the FHR above the baseline, of more than 15 bpm amplitude, and lasting more than 15 seconds, but less than 10 minutes.

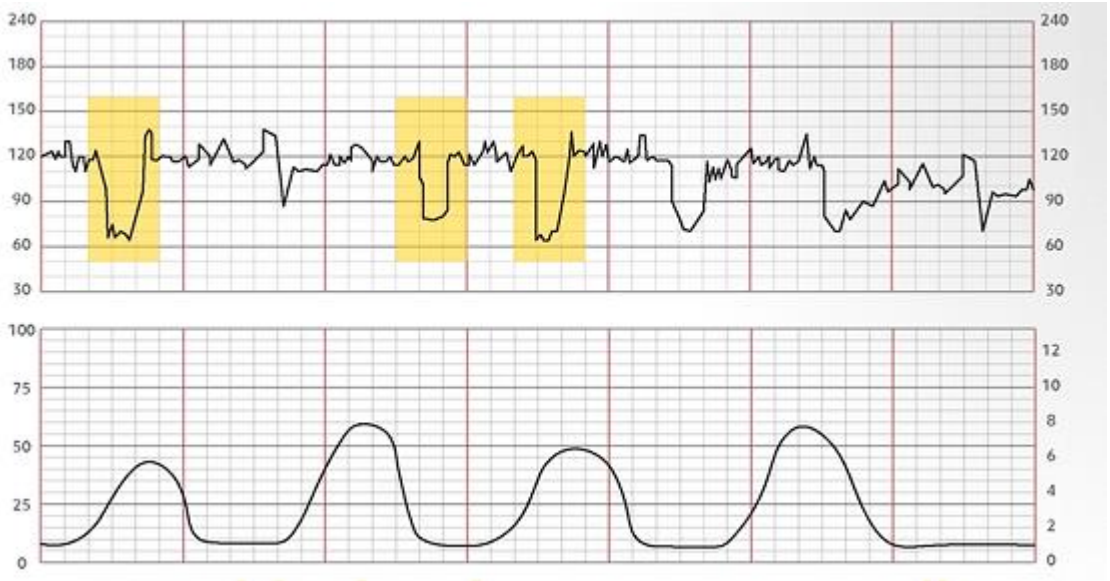


Decelerations are abrupt decreases in FHR below the baseline with an amplitude of more than 15 bpm and duration exceeding 15 seconds. Decelerations may be classified as early, variable, late or prolonged, according their shape and duration. They are usually associated with uterine contractions, and therefore occur rarely in antepartum cardiotocography.

Early decelerations are shallow, short-lasting, with normal variability within the deceleration, and coincident with contractions. They are believed to be caused by fetal head compression and do not indicate fetal hypoxia.

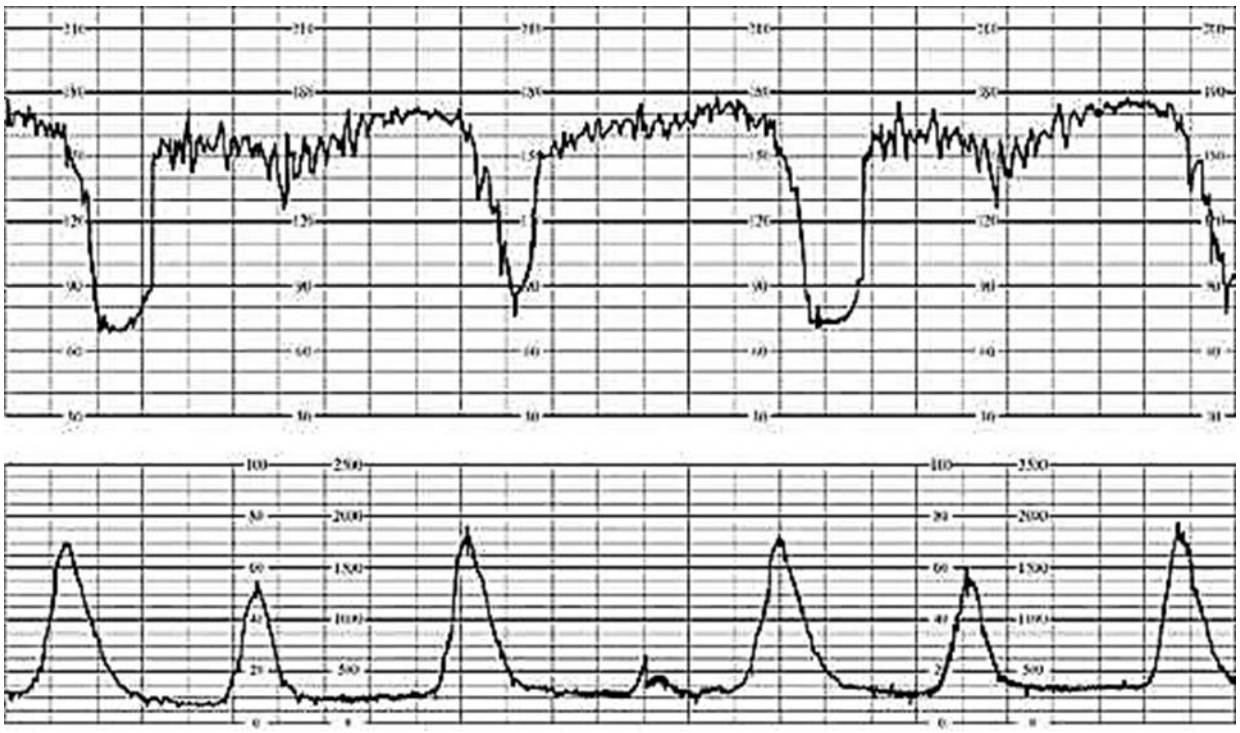


Variable decelerations (V-shaped) exhibit a rapid drop (onset to nadir in less than 30 seconds), good variability within the deceleration, rapid recovery to the baseline, varying in size, shape and relationship to uterine contractions. They translate a baroreceptor-mediated response to increased arterial pressure, as occurs with umbilical cord compression, and on their own are seldom associated with an important degree of fetal hypoxia.



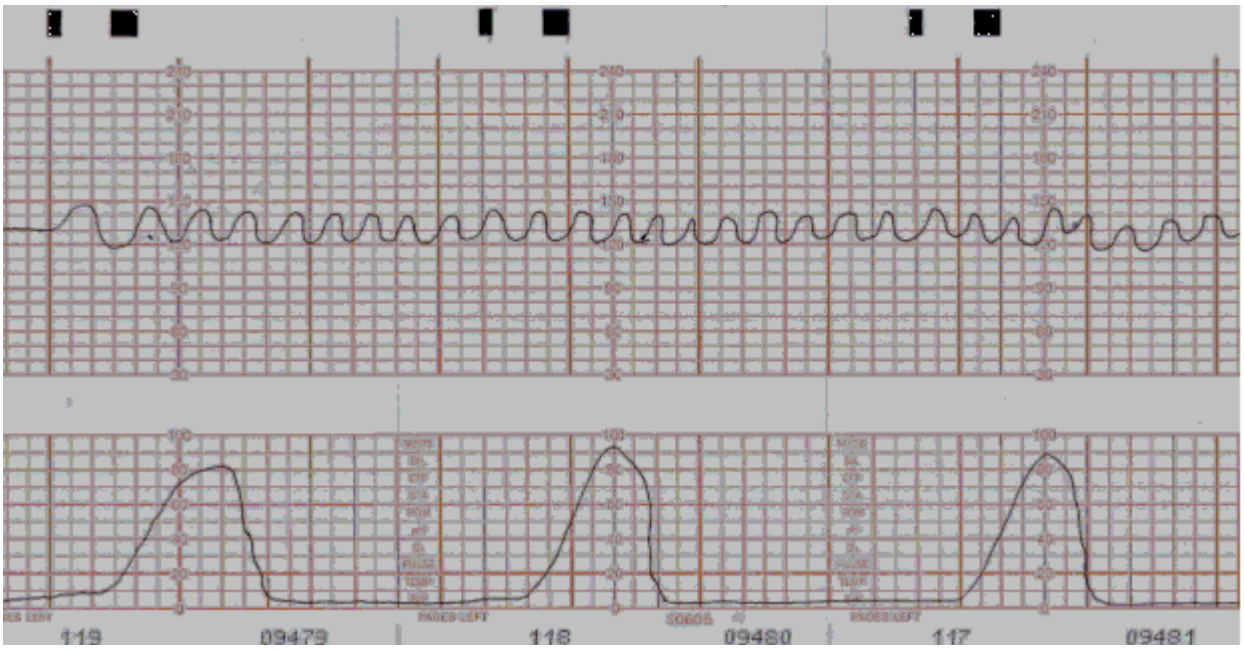
Late decelerations (U-shaped or with reduced variability) have a gradual onset, gradual return to the baseline (>30 seconds), or reduced variability within the deceleration.

When contractions are adequately monitored, late decelerations start more than 20 seconds after the onset of a contraction, the nadir is after the acme, and return to the baseline occurs after the end of the contraction. They are indicative of a chemoreceptor-mediated response to fetal hypoxemia. In the presence of a tracing with no accelerations and reduced variability, the definition of late decelerations also includes those with an amplitude of 10–15 bpm.



Prolonged decelerations last more than 3 minutes and are likely to include a chemoreceptor-mediated component and thus to indicate hypoxemia. Decelerations exceeding 5 minutes, with FHR maintained <80 bpm and reduced variability within the deceleration are usually associated with an episode of acute fetal hypoxia and require emergent intervention.

The **sinusoidal pattern** is a regular, smooth, undulating signal, resembling a sine wave, with an amplitude of 5–15 bpm, and a frequency of 3–5 cycles per minute. This pattern lasts more than 30 minutes. The pathophysiological basis for the sinusoidal pattern is incompletely understood, but it usually occurs in association with severe fetal anemia, as is found in anti-D alloimmunization, fetal–maternal hemorrhage, twin-to-twin transfusion syndrome and ruptured vasa previa. Less frequently, it has been described in cases of acute fetal hypoxia, infection, cardiac malformations, hydrocephalus and gastroschisis.



PRACTICAL LESSON № 6

"MANAGEMENT OF THE SECOND STAGE OF LABOUR IN CEPHALIC PRESENTATION"

Objective: the purpose of the training is to gain basic knowledge of physiological labor management, the mechanism of labor in the occiputanterior presentation.

Basic concepts: Normal physiological labor, clinical course and management of physiological labor, the mechanism of labor in the anterior occiput presentation, amniotomy, manual assistance in the 2nd period of labor, episiotomy, active introduction of third period of labor, signs of separation of a normally located placenta, partogram.

1. Control of the reference level of knowledge (written work, writtentest, online test, interviewed, etc.). Requirements for students' theoretical readiness to perform practicalclasses (knowledge requirements, list of didactic units).

Knowledge requirements:

1. Ability to collect medical information about the patient and analyze clinical data
2. Ability to determine the necessary list of laboratory and instrumental tests and evaluate their results
3. Ability to establish a preliminary and clinical diagnosis of the disease
4. Ability to determine the necessary regime of work and rest in the treatment and prevention of diseases
5. Ability to determine the nature of nutrition in the treatment and prevention of diseases
6. Ability to identify the principles of treatment and prevention of diseases
7. Ability to determine the tactics and provide emergency medical care
8. Ability to carry out medical evacuation measures
9. Ability to plan and implement preventive and anti-epidemic measures against infectious diseases

List of didactic units:

- Physiological labor.

- The position of the fetusin the uterine cavity.
- Clinical course and management of physiological labor.
- The mechanism of delivery in the anterior occiput presentation.
- Manual assistance in the 2nd period oflabor.
- Episiotomy.
- Active introduction of the third period of labor.
- Signs of separation of a normally located placenta. Partogram.

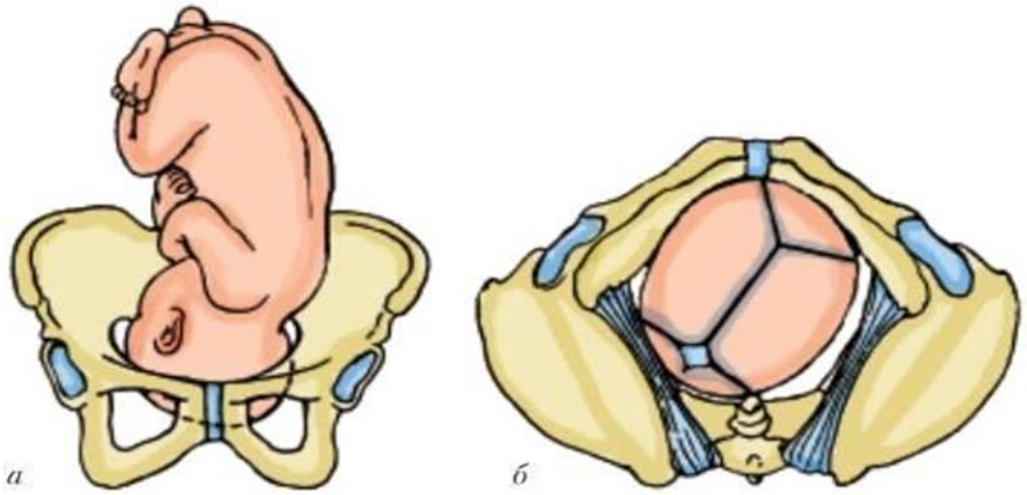
2. Questions (test tasks, problems, clinical situations) to check basic knowledge on the subject of the lesson.

Questions:

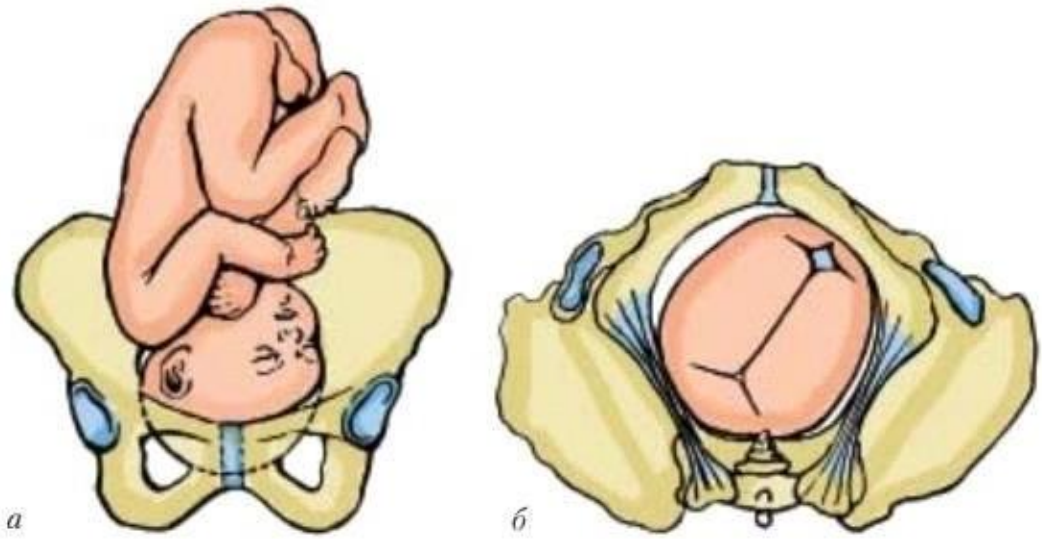
- What is a normal (physiological) labor?
- What are the precursors of labor?
- What is the biomechanism of labor in the anterior occiput presentation?
- What is the leading point in the anterior occiput presentation?
- What is the first moment of the biomechanics of childbirth in the anterior occiput presentation?
- What is the second moment of the biomechanics of childbirth in the anterior occiput presentation?
- What is the third moment of the biomechanics of childbirth in theanterior occiput presentation?
- What is the fourth moment of the biomechanics of labor in the anterior occiput presentation?
- What is the biomechanism of labor in the breech presentation?
- What are the periods of labor?
- What is the management of the first stage of labor?
- What is the management of the second stage of labor?
- What is the characteristic of the third period of labor, its duration?

- What is the active tactic of managing the third period of labor?
- What are the mechanisms of placental detachment?
- What is a partogram?

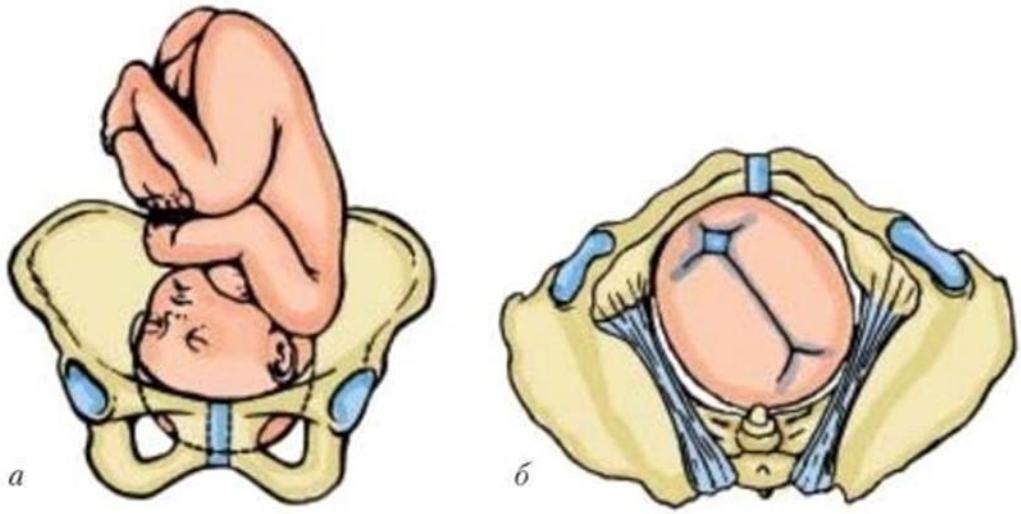
1. Determine the position of the fetus in the uterus.



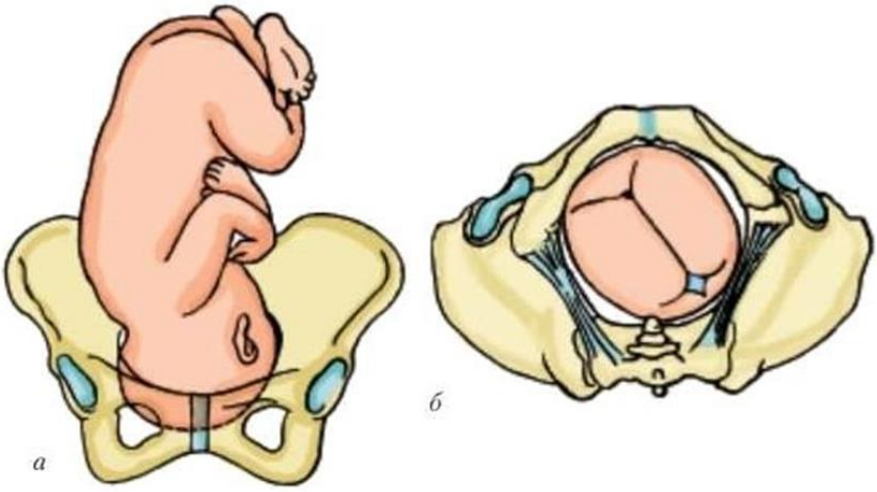
2. Determine the position of the fetus in the uterus.



3. Determine the position of the fetus in the uterus.



4. Determine the position of the fetus in the uterus.



Clinical situation A

A 23-year-old first-time pregnant woman was admitted to the maternity hospital with a full-term pregnancy and complaints of contractions that began 4 hours ago. The contractions lasted for 20-25 seconds and repeated every 4-5 minutes. The general condition of the woman in labor is satisfactory. Body temperature is 36.70°C. Blood pressure is 120/80 mm Hg, and her heart rate is 80 beats per minute.

The fetal position is longitudinal, with the back turned to the left half of the uterus, and the head is anterior, located 4 fingers above the symphysis. The fetal heartbeat is clear, rhythmic, at 156 beats per minute.

Internal obstetric examination: the vagina is free, the cervix is smoothed, the margin

is thin, and the external os has a diameter of 2 cm. The fetal bladder is intact, the head is present, and the caput is inaccessible. The terminal lines and the inner surface of the symphysis are partially palpable, except for the upper edge.

What is the diagnosis?

Does the rate of cervical dilatation conform to the period and phase of labor?

Clinical situation B

Patient P., in her second delivery at 38 weeks of pregnancy, was admitted to thematernity hospital after 5 hours of regular contractions. Her first delivery was normal two years ago. Her temperature is 36.8°C, blood pressure is 120/80 mmHg.

The fetal position is longitudinal, in the first position, with the head pressed againstthe entrance to the small pelvis. The fetal heart rate is 162 beats per minute.

Internal obstetric examination: the vagina is free, the cervix is shortened to 0.5 cmwith thick cervical crests, and the pharynx is open by 2.5 cm. The fetal bladder is intact, and the fetal head is located in the first plane of the pelvis.

Diagnosis.

The duration and name of the first period of labor.

The mechanism of cervical smoothing and dilatation in this woman in labor. The pattern ofcervical opening.

Anterior and posterior amniotic fluid. When amniotic fluiddischarge is considered as “in time”?

How long is the first period of labor for women who give birth again?

Does the rate of cervical dilatation confirm to period and phase of labor?

Correct answers

Task 1 - Longitudinal lie, head (occipital) presentation, LOA

Task 2 - Longitudinal lie, head (occipital) presentation, ROP

Task 3 - Longitudinal lie, head (occipital) presentation, LOP

Task 4 - Longitudinal lie, head (occipital) presentation, ROA

Clinical Situation A

Pregnancy I, at 39-40 weeks. Longitudinal fetal position, Occiput anterior position, first pregnancy, urgent labor, latent phase of the first period of labor.

In this woman the rate of cervical dilatation corresponds to the latent phase of the first period of labor. The cervix has taken 4 hours to become smooth, and the uterine os is dilated to 2 cm.

Clinical Situation B

Second pregnancy, at 38 weeks. Longitudinal fetal position, head presentation, second birth, timely labor, latent phase of the first period of labor.

The first period of labor, also known as the period of cervical dilatation, begins with the onset of regular contractions and continues until full cervical dilatation. In the active phase of the first period of labor, the anterior part of the fetus advances. Physiological labor is characterized by the synchronization of cervical dilatation and the advancement of the anterior part.

In women who are giving birth again the mechanism of cervical smoothing and dilatation occurs as follows: Cervical smoothing and dilatation take place simultaneously during contractions.

The fetus's head descends into the birth canal, touches the lower segment of the uterus from all sides, and pushes it against the entrance to the pelvis forming a sealing ring. This ring separates the amniotic fluid into anterior and posterior compartments during labor. Amniotic fluid is considered to be discharged on time if the rupture of the amniotic sac occurs during the active phase of the first period of labor.

The average duration of the first period of labor in women who have previously given birth is 7-9 hours.

The rate of cervical dilatation corresponds to the latent phase of the first period of labor.

3. Formation of professional abilities and skills (mastery of skills, conducting curation,

determining the treatment scheme, conducting laboratory research, etc.). Recommendations (instructions) for performing tasks (professional algorithms, orienting maps for the formation of practical skills and abilities, etc.).

Normal (physiological) labor refers to labor with spontaneous onset and progressive labor activity in a pregnant woman between 37 and 42 weeks' gestation. The labor is considered normal when the fetus is in an occiput position, and both the mother and newborn are in satisfactory condition after delivery. When labor begins, a pregnant woman is referred to as a laboring woman.

Precursors of Childbirth:

- Prolapse of the uterine fundus.
- Increased uterine response to mechanical stimuli.
- Discharge of the mucus plug from the cervical canal.
- Weight loss by 1-1.5 kg.
- Reduction in the amount of amniotic fluid.
- Engagement of the fetal head in first-time mothers.

The preliminary period is characterized by mild, sporadic cramping pain in the lower abdomen and lower back. These sensations occur against the backdrop of normal uterine tone and can last up to 6-8 hours. During this preliminary phase, the cervix softens, smoothes, and begins to open. Additionally, there is a deployment of the lower uterine segment and a lowering of the anterior part of the fetus.

Determining the Onset of Labor

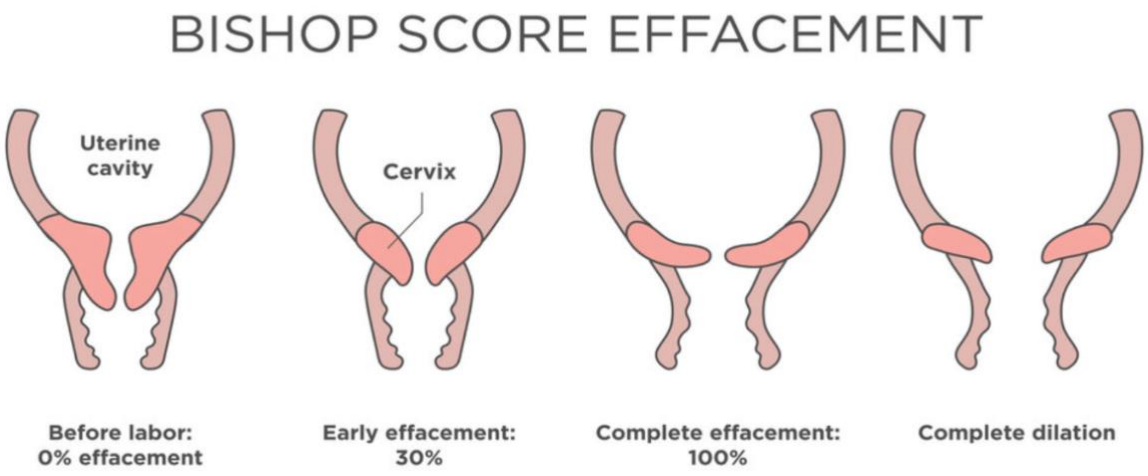
Contractions are involuntary contractions of the uterine muscles. The intervals between contractions are referred to as pauses.

Regular labor is characterized by the presence of 1-2 or more uterine contractions within 10 minutes, each lasting 20 seconds or more, leading to structural changes in the cervix, including smoothing and opening.

A woman's biological readiness for childbirth is assessed by the degree of cervical maturity, which includes the following factors:

- Consistency of the cervix
- Length of its vaginal part
- Patency of the cervical canal
- Position of the cervix in relation to the pelvic axis
- Condition of the external os (opening of the cervix)
- Location of the anterior part of the fetus

Assessment of the degree of cervical "maturity" according to the Bishop scale



Cervical Exam	Points				Subscore
	0	1	2	3	
Dilation (cm)	Closed	1-2 cm	3-4 cm	5-6 cm	
Effacement (%)	0-30%	40-50%	60-70%	80%	
Baby's Station	-3	-2	-1 or 0	+1 or +2	
Consistency	Firm	Medium	Soft		
Position	Posterior	Mid	Anterior		
				Bishop Score	

Physiology of Childbirth

Labour is typically divided into three periods:

- The First Period - Cervical Dilation
- The Second Period - Fetal Delivery
- The Third Period - Postpartum

When labor begins, a pregnant woman is referred to as a woman in labor.

The first period of labor can be further divided into two consecutive phases:

- Latent Phase: This phase spans from the onset of regular contractions until the cervix is dilated to 3 cm in first-time mothers or 4 cm in subsequent births. The latent phase usually lasts approximately 6-8 hours for first-time mothers and 4-5 hours for those who have given birth before.
- Active Phase: This phase begins when cervical dilatation is at 3-4 cm and continues until it reaches full dilation at 10 cm. In the active phase, the typical rate of cervical dilatation considered normal is 1 cm per hour, both for first-time and repeat mothers. The active phase can be further divided into three sub-phases:
- Acceleration: In first-time mothers, this phase lasts up to 2 hours, while for repeat mothers, it lasts up to 1 hour.
- Maximum Dilation: This phase has the same duration as the acceleration phase, depending on whether it's the mother's first delivery or a subsequent one.
- Deceleration: In first-time mothers, the deceleration phase lasts 1-2 hours, whereas for repeat mothers, it lasts 0.5-1 hour.

The first period of labor is defined from the onset of regular contractions, which are uncontrollable rhythmic contractions of the uterine muscle, until full cervical dilation of 10 cm. Regular labor is a contractile activity characterized by 2-5 contractions in 10 minutes,leading to structural changes in the cervix, including smoothing and opening. Uterine activity can be determined by palpating the uterus for 10 minutes. The presence of 2 or more uterine contractions within 10 minutes, each lasting 20 seconds or more, is considered a sign of labor.

The assessment of the effectiveness of contractions is based on their strength, duration, and frequency, as well as the cervical dilatation in the dynamics and signs of head advancement relative to the plane of entry into the pelvis.

During the active phase of the first period of labor, the effective contractile activity of the uterus should exhibit the following characteristics: 3-4 contractions in 10 minutes, each lasting more than 40 seconds.

Nevertheless, the most objective criterion for assessing the effectiveness of labor in the first stage is cervical dilatation.

The second period, also known as the period of expulsion, extends from the moment of full cervical dilatation until the birth of the child. It's crucial to differentiate between the early phase of the second period, which ranges from full dilatation to the commencement of pushing, and the active phase, which encompasses the actual pushing phase.

Key concepts of the second period of labor include:

- Contractions: These are rhythmic combinations of contractions involving the uterine muscles, abdominal muscles, diaphragm, and pelvic floor.

The maximum allowable duration of the second period for women giving birth for the first time and those who have given birth previously is 2 and 1 hour, respectively, without epidural anesthesia, and 3 and 2 hours with epidural anesthesia.

Most of this time is spent in the early phase, during which the head gradually progresses through the birth canal to the pelvic floor, initially without active pushing. Subsequently, pushing gradually emerges and intensifies with each contraction. It's important not to compel a woman to push during the early phase. Organizing pushing during this phase, provided fetal and maternal conditions are normal, can lead to fatigue, disruption of the internal rotation of the fetal head, trauma to the birth canal, fetal head, fetal cardiac issues, and unnecessary medical interventions.

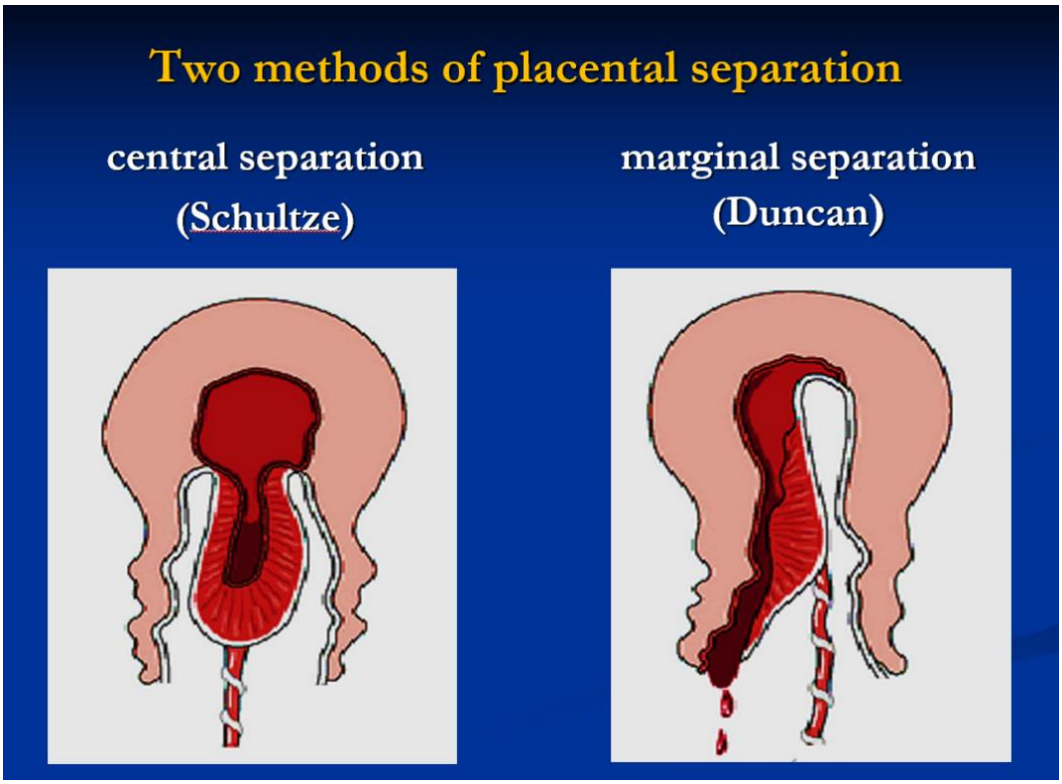
Full (spontaneous and active) intense pushing typically occurs only when the head reaches the pelvic floor, marking the active phase.

The third period, spans from the birth of the fetus until the placenta separates from the membranes. If there are no signs of bleeding, this period should not exceed 30 minutes.

Mechanisms of Normal Placental Detachment

The separation of the placenta from the center, resulting in the formation of a retroplacental hematoma and the fetal surface emerging outward, is referred to as the Schultze mechanism.

When the placenta detaches from the edge instead of the center, this detachment mechanism is known as Duncan's.



The integrity of the afterbirth is assessed visually. Blood loss during the postpartum period, which amounts to 0.5% of the laboring woman's weight but does not exceed 500 ml, is considered physiological. The only objective method for quantifying blood loss is through measurement.

Active management of the third period of labor:

The implementation of active management of the third period of labor during each delivery can reduce the incidence of postpartum bleeding caused by uterine atony by 60%, in addition to decreasing postpartum blood loss and the need for blood transfusion.

Standard components of active management of the third period of labor include:

- Administration of uterotonics.
- Controlled traction of the umbilical cord to deliver the placenta while supporting the uterus manually.
- Uterine massage through the anterior abdominal wall after the delivery of the placenta.

Guidelines for administering uterotonics: within the first minute after the birth of the child, palpate the uterus to rule out the presence of a second fetus. If there is no second fetus, administer 10 U of oxytocin intramuscularly. Oxytocin is the preferred uterotonic, as its effects become evident within 2-3 minutes, and it can be used in all women.

If oxytocin is not available, 0.2 mg of ergometrine can be used intramuscularly. Ensure that the woman is informed about the potential side effects of these drugs.

Do not use ergometrine in women with pre-eclampsia, eclampsia, or hypertension.

Controlled traction of the umbilical cord involves the following steps:

- Clamp the umbilical cord closer to the perineum with a clamp and hold the clamped umbilical cord and clamp in one hand.
- Place the other hand directly over the woman's pubis and hold the uterus away from the womb.
- Gently pull the umbilical cord and wait for a strong uterine contraction (typically 2-3 minutes after oxytocin administration).
- Simultaneously with a strong contraction of the uterus, encourage the woman to push and gently pull the umbilical cord downward (traction) to deliver the placenta, while maintaining counter-traction with the other hand in the opposite direction to the traction (pushing the uterus away from the womb).

If the placenta does not descend (i.e., is not born) within 30-40 seconds of controlled traction, stop the traction on the umbilical cord but continue to gently hold it in slight tension. The other hand should remain above the womb, holding the uterus. Wait for a strong uterine contraction before repeating the controlled traction of the umbilical cord with counter-traction on the uterus. Never pull up on the umbilical cord without using counter-traction on the well-contracted uterus above the womb, as traction without a uterine contraction can lead to uterine prolapse.

After the birth of the placenta, hold it with both hands, gently turn it, twist the membranes, and slowly pull the placenta down to complete the labor.

In case of ruptured membranes, carefully examine the vagina and cervix with sterile gloves. If membranes are found, use a window clamp to remove any remaining debris.

Examine the placenta thoroughly to ensure its integrity. If a section of the maternal surface is missing or there is a section of torn membranes with blood vessels, there is reason to suspect placental abruption, and appropriate measures should be taken.

Uterine massage: After the delivery of the placenta, immediately massage the uterus through the woman's anterior abdominal wall until it becomes firm. Subsequently, palpate the uterus every 15 minutes for the first 2 hours to ensure that it remains firm. If necessary, repeat the massage.

If signs of placental abruption are present, the woman should be encouraged to push, which may lead to the delivery of the placenta.

Signs of placental abruption include:

- Schroeder's sign: The bottom of the uterus rises and is located above and to the right of the navel, resulting in an hourglass shape when the placenta has separated and descended into the lower segment or vagina.
- Chukalov-Küstner sign: When pressing the palm's edge on the suprapubic area during placental separation, the uterus rises, and the umbilical cord does not retract into the vagina.

- Alfeld's sign: The ligature on the umbilical cord, located at the woman's labia, descends 8-10 cm below the Boulevard ring during placental separation.
- Dovzhenko's sign: A woman is asked to breathe deeply, and if the umbilical cord does not retract into the vagina as she exhales, the placenta has separated.
- Klein's sign: The woman in labor is asked to push, and if the umbilical cord does not retract into the vagina, the placenta has separated.

External methods are employed to remove the separated placenta.

Abuladze's method involves the following steps:

- After emptying the bladder, grasp the anterior abdominal wall with both hands, creating a fold to firmly hold the rectus abdominis muscles.
- Subsequently, instruct the woman in labor to push. The placenta is easily delivered as a result of the significant reduction in the volume of the abdominal cavity.

If there are no signs of placental abruption or external bleeding within 30 minutes after the birth of the fetus, manual separation and removal of the afterbirth is performed.

In the presence of bleeding, manual separation and removal of the placenta should be carried out immediately under adequate anesthesia.

Once the placenta is isolated, it is essential to thoroughly examine it to ensure the integrity of both the placenta and membranes.

Examination of the birth canal after delivery, using vaginal mirrors, is only performed in the presence of bleeding, after surgical vaginal delivery, or when the physician is uncertain about the condition of the birth canal (such as in cases of rapid delivery or deliveries that occur outside of the hospital).

Biomechanics of Childbirth in the Anterior Occiput Presentation

The biomechanism of labor in the anterior presentation comprises four key aspects.

The first step involves flexing the fetal head and lowering it to align with the plane of entry into the pelvis.

This represents the rotation of the head around its transverse axis. Consequently, with the flexion of the head, the smaller fontanelle moves to the lower pole of the anterior part,

approaching the leading edge of the pelvis and becoming the "leading point." This head flexion allows the smallest circumference to pass through the pelvis, which corresponds to the small oblique dimension and measures approximately 32 cm.

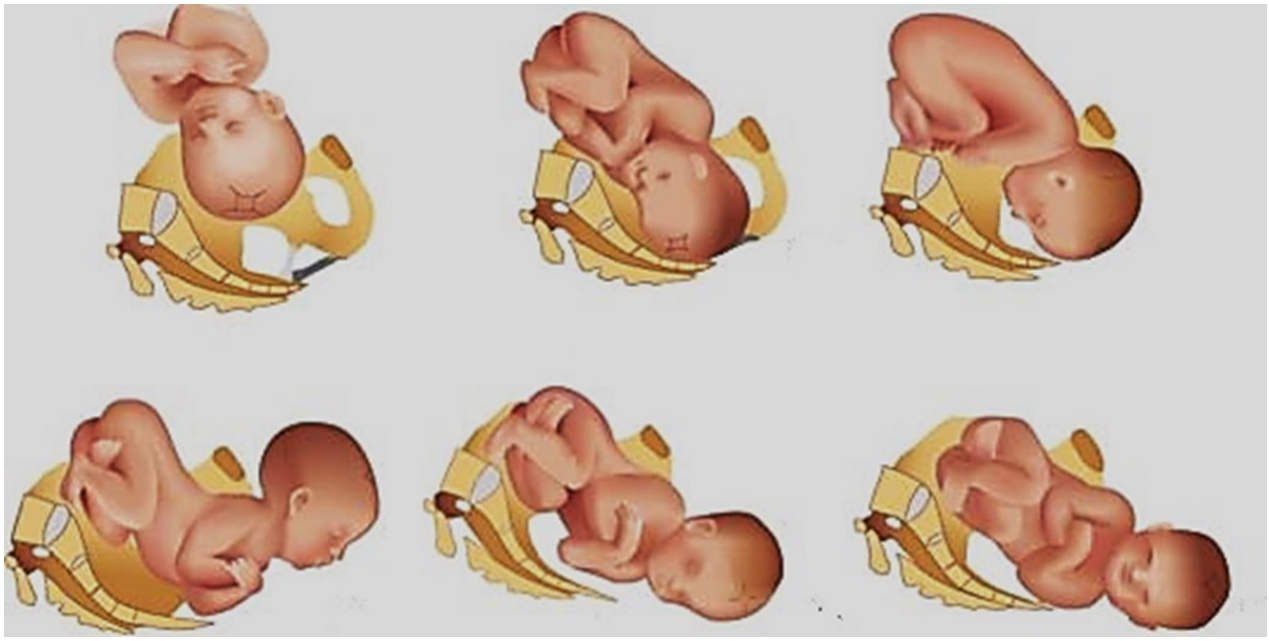
During this stage, the head slowly rotates around its axis, positioning the back of the head towards the symphysis pubis and the face towards the sacrum. As part of this process, the sagittal suture gradually changes its orientation, shifting from a transverse position to an oblique one, and then from oblique to a straight alignment as it proceeds through the pelvic outlet. This alteration in the position of the sagittal suture occurs due to the left oblique dimension of the pelvis.

The third aspect involves the extension of the head within the pelvic outlet.

The sagittal suture aligns with the straight dimension of the pelvic outlet. The fixation point forms between the midpoint of the lower edge of the pubic symphysis and the occipital fossa. Around this point, the head extends, and clinically, this is accompanied by the emergence of the forehead, face, and chin during childbirth.

As the head descends and emerges, the trunk moves towards the pelvis, with the transverse dimension of the shoulders aligning with one of the oblique dimensions of the pelvic entrance. Upon reaching the pelvic floor, the shoulders undergo an internal rotation, similar to that of the fetal head. Once this rotation is completed, the shoulders are positioned in the straight dimension within the pelvic exit plane. This rotation of the shoulders is then transferred to the head, constituting the fourth step in the biomechanism of labor.

The head rotates to face the mother's thigh: in the first position - to the right, for the second position - to the left.



Assessment of labor progress

To assess the progress of labor, the following factors are determined:

1. Rate of Cervical Dilatation: This is assessed through an internal obstetric examination conducted every 4 hours.

An additional internal examination is carried out if indicated:

- Spontaneous rupture of fetal membranes.
- Abnormal fetal heart rate (less than 110 or more than 170 beats per minute).
- Prolapse of the umbilical cord.
- Suspected malpresentation or fetal head malposition.
- Delayed labor progress.
- Cases of bleeding (examination in the operating room).

2. Frequency and Duration of Contractions

3. Presence of Fetal Head Advancement into the Pelvic Cavity

External Methods of Assessing Cervical Dilatation

The degree of cervical dilatation can only be estimated approximately using external methods. During labor, it is roughly assessed by the height of the contractile ring, which represents the boundary between the contractile muscle and the stretching lower segment

of the uterus. Typically, the cervix dilates during labor by an amount roughly equivalent to the width of the transverse fingers of the contractile ring positioned above the pubic arch.

Internal Methods for Assessing Cervical Dilatation

In order to determine the dynamics of cervical dilatation and the position of the fetal head during labor, internal obstetric examinations are conducted:

- Upon the woman's admission to the maternity ward.
- Every 4 hours during the first stage of labor.
- After the rupture of amniotic fluid (for the timely diagnosis of possible umbilical cord prolapse and small fetal parts in the amniotic fluid).
- Additional internal obstetric examinations in the first stage of labor are allowed only if indicated due to the increased risk of ascending infection of the birth canal.

Additional Internal Examinations in the First Stage of Labor May Be Performed If Indicated:

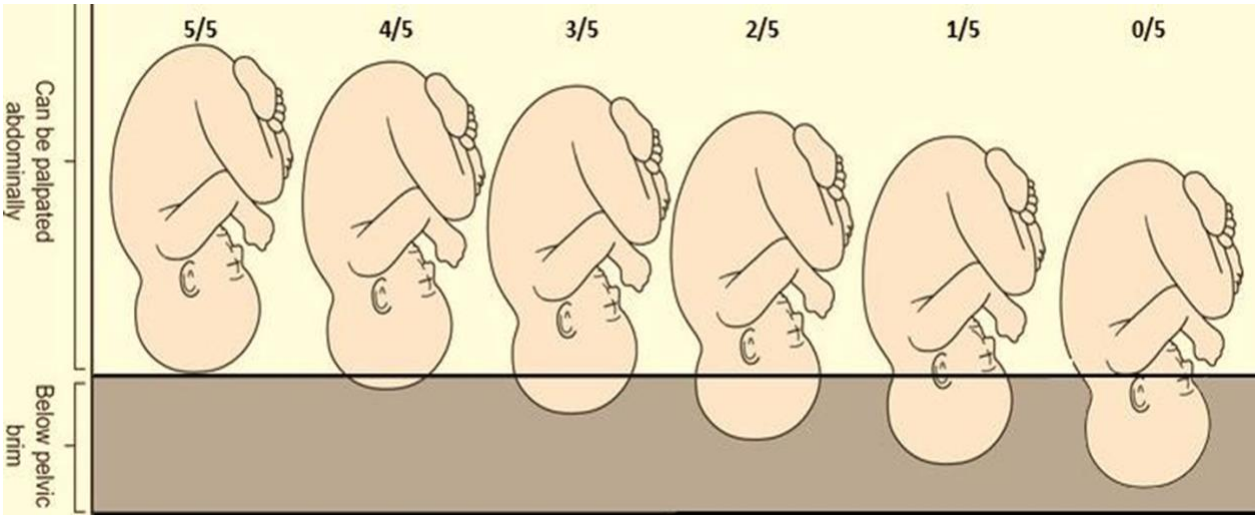
- After the rupture of the amniotic membrane.
- In cases of a pathological fetal heart rate (less than 100 or more than 180 beats per minute) to investigate reasons that might explain signs of fetal distress.
- If there is umbilical cord prolapse from the vagina.
- In cases of multiple pregnancies after the birth of the first fetus.
- When the fetus is in an incorrect position or if the fetal head is suspected to be poorly positioned at the entrance to the pelvis in extension, to clarify the obstetric situation.
- In instances of delayed progress of labor due to ineffective uterine contractions.
- Before amniotomy and prior to oxytocin stimulation.
- When early delivery is required due to severe pre-eclampsia, antenatal fetal death, or other pathologies.
- When making a decision on operative vaginal delivery (e.g., obstetric forceps, vacuum extraction, or pelvic extraction of the fetus).
- In cases of bleeding after 22 weeks of pregnancy (conducted in the operating room).

Assessing the Degree of Head Engagement Using External Methods

The degree of head engagement can be determined using the IV Leopold technique.

The doctor stands to the right, facing the pregnant woman's legs. Palms of both hands are placed on the lower segment of the uterus, one on the right and one on the left, with fingertips reaching the symphysis pubis. This technique allows for the determination of whether the fetal head is located above the entrance to the pelvis or has descended through the plane of the pelvic inlet or a significant segment.

An alternative method is abdominal palpation, which assesses the height of the fetal head based on the number of finger-widths above the symphysis:



- 5/5 the fetal head is positioned 5 finger-widths above the symphysis, signifying that the fetal head is above the entrance to the pelvis.
- 4/5 width of 4 fingers implies the head is pressing against the pelvic entrance.
- 3/5 width of 3 fingers suggests that the head with a small segment is in the entrance to the pelvis.
- 2/5 width of 2 fingers indicates the head along with a large segment, is in the pelvic entrance.
- 1/5 to 0/5 width of 1 finger implies that the head is situated within the pelvic cavity.

External palpation of the fetal head should be conducted immediately before performing an internal obstetric examination. This helps prevent errors in determining the head's position in cases of significant edema in the anterior part of the fetal head.

Assessment of the Degree of Head Engagement by Internal Obstetric Examination

• Head Above the Pelvic Entrance: The pelvis is free, the head is positioned high and doesn't obstruct the palpation of the pelvic line and the caput. The sagittal suture is transverse and equidistant from the symphysis and the caput, with both the large and small parietal bones at the same level.

• Head with a Small Segment in the Pelvic Entrance: The sacrum is free, and the caput can be reached with a bent finger (if accessible). The internal surface of the symphysis is accessible for examination.

The small parietal is lower than the large parietal, and the sagittal suture is slightly oblique.

• Head with a Large Segment in the Pelvic Entrance: The head occupies the upper third of the symphysis and the sacrum. The caput is inaccessible, but the ischial spines are easily palpable. The head is curved, the small parietal is lower than the large parietal, and the sagittal suture is in one of the oblique dimensions.

• Head in the Wide Part of the Pelvis: The caput has passed the plane of the broad part of the pelvis, with the greatest circumference. Two-thirds of the inner surface of the pubic symphysis and the upper half of the sacrum are occupied by the caput. The fourth and fifth sacral vertebrae and ischial spines are palpable. The sagittal suture is in one of the oblique dimensions, and the small parietal is lower than the large parietal.

• Head in the Narrow Part of the Pelvis: The upper two-thirds of the sacrum and the entire inner surface of the pubic symphysis are occupied by the head. The ischial spines are challenging to reach. The head is close to the pelvic floor, and its internal rotation is not yet complete. The sagittal suture is in one of the oblique dimensions, close to the straight one, with the small parietal lower than the large parietal.

• Head at the Pelvic Outlet: The sacral fossa is completely filled with the head, and the ischial spines are not detectable. The sagittal suture is in the direct dimension of the pelvic exit, with the small fontanelle lower than the large fontanelle. The position of the fetal head during internal examination can also be determined in relation to the level of the ischial

bones (position "0"). The "-" sign indicates the head is above the ischial bones (closer to the pelvic entrance), while the '+' sign means the fetal head is located below the ischial bones (closer to the pelvic exit).

The head position is determined as follows:

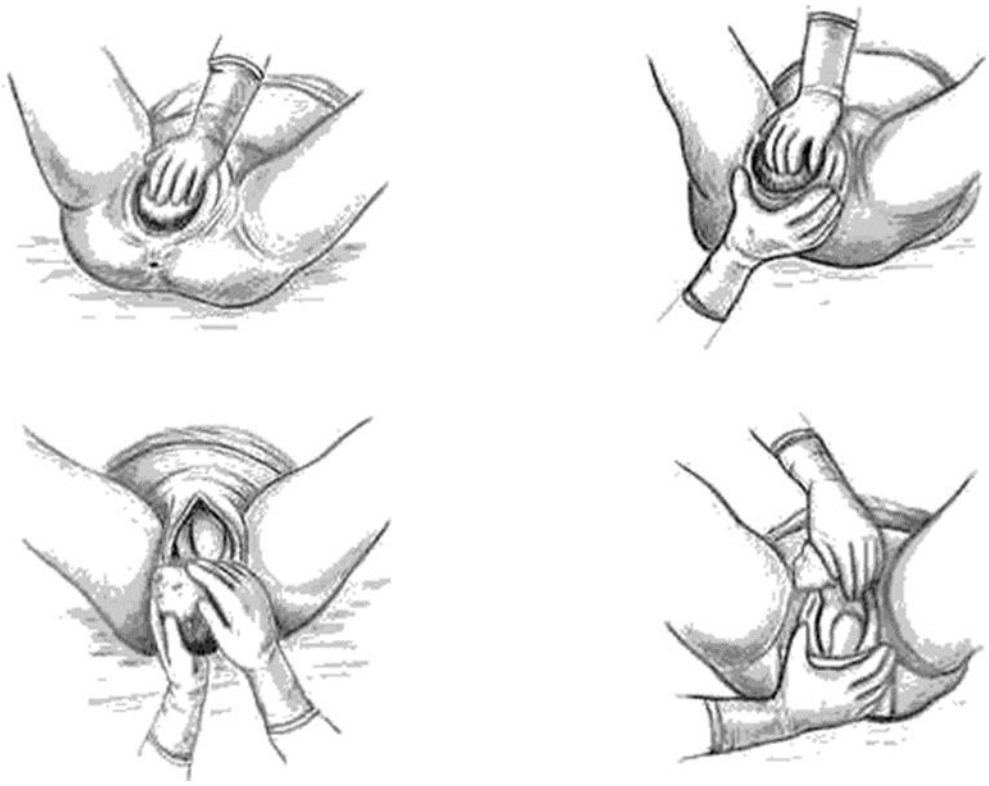
- H: Head above the pelvic entrance.
- 2: Head pressed against the entrance to the pelvis.
- 1: Head with a small segment at the entrance to the pelvis.
- 0: Head with a large segment at the entrance to the pelvis.
- +1: Head in the broad part of the pelvis.
- +2: Head in the narrow part of the pelvis.
- +3: Head at the exit from the pelvis.

The delivery of the fetal head requires careful manual assistance, aimed at preserving not only the integrity of the woman's perineum but also preventing intracranial, spinal, and other fetal injuries.

Perineal Protection consists of five techniques:

- Preventing premature extension of the fetal head:The palm of the left hand rests on the pubis, and the fingers gently restrain the rapid advancement of the head by applying pressure.
- Reducing tension in the perineal tissue: The palm surface of the right hand is placed on the perineum, and the fingers shift the tissue of the labia majora toward the perineum to alleviate tension.
- Clearing the fetal head from the labia:After the fixation point is established, use gentle outward force to move the side edges of the vulvar ring away from the head, allowing it to unfold.
- Assisting with the internal rotation of the shoulders and external rotation of the head: Grasp the newborn's head with both hands so that the palms rest on the area of the ears. Gently pull the head downward until the anterior shoulder comes under the pubic arch.

• Releasing the shoulder girdle: Use the left hand to grasp the head and pull it back towards the womb. Simultaneously, use the right hand to carefully free the perineal tissue from the posterior shoulder.



Amniotomy is a procedure used to induce and regulate labor activity.

Method:

1. Antiseptic Treatment of the External Genitalia: Begin by performing antiseptic treatment of the external genitalia of a pregnant or postpartum woman.

2. Intra-Obstetric Examination:Conduct an intra-obstetric examination to determine the presence of amniotic fluid and assess its tension.

3. Insert the Amniotomy Hook: Gently insert the amniotomy hook into the vagina, positioning it in a way that the tip of the instrument reaches the amniotic fluid.

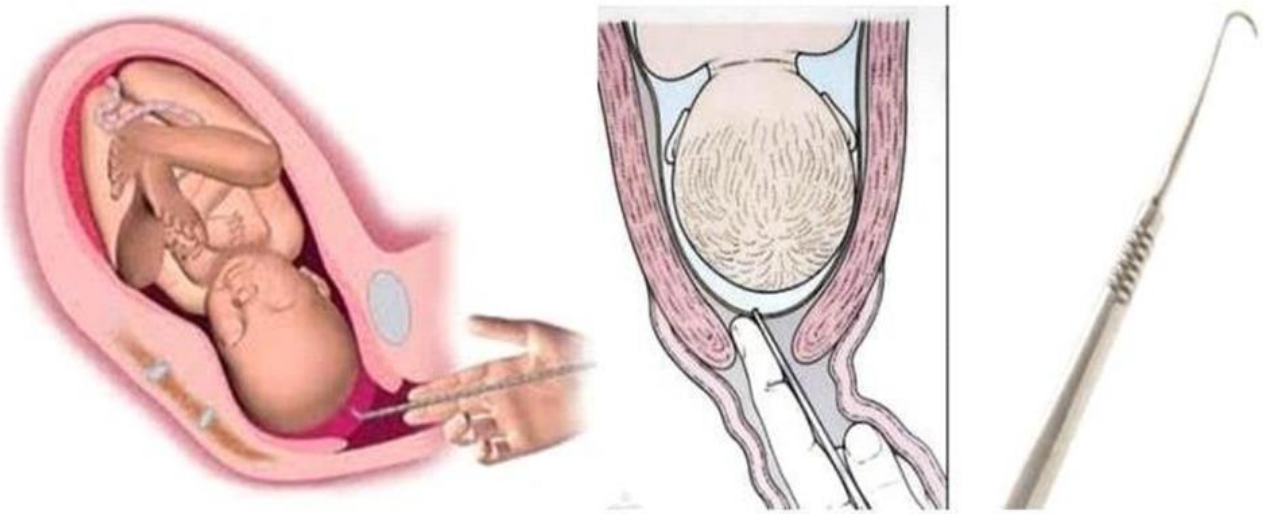
4. Rotate the Instrument: Rotate the instrument around its axis, ensuring that the sharp part of the hook engages the amniotic membrane.

5. Break the Membrane: Carefully break the amniotic membrane.

6. Dilate the Opening: Use the middle and index fingers to dilate the opening by gently separating the amniotic membrane from the anterior part.

7. Assess the Amniotic Fluid: Evaluate the quantity and quality of the amniotic fluid.

8. Confirm Proper Positioning: Ensure that the anterior part is pressed against the plane of entry into the pelvis and verify that no umbilical cord loops are detected in front of the anterior part.



Midline episiotomy and medio-lateral episiotomy - aimed at avoiding perineal tears and traumatic brain injury during childbirth.

Midline episiotomy: The incision is made along the midline of the perineum, where there are fewer vessels and nerve endings. This incision dissects through the skin, subcutaneous fat, posterior vaginal wall, fascia, bulbocavernosus muscle, and superficial and deep transverse perineal muscles.

Methodology:

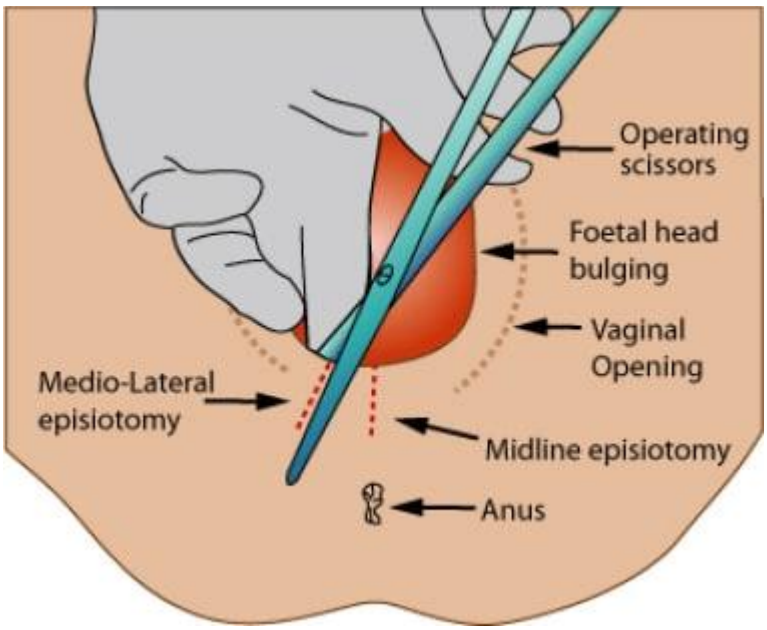
- After treating the external genitalia, insert the scissors blade behind the posterior vaginal wall.
- Make a 1.5-2 cm incision in the perineum, starting from the posterior vaginal wall and extending toward the anus.

Medio-lateral episiotomy: An incision is made on one side, extending through the labia majora toward the ischial tuberosity.

Method:

• After treating the external genitalia, move the scissors upward along the posterior vaginal wall by 2 cm.

• Make a 1.5-2 cm long incision in the perineum, extending from the labia to the ischial tuberosity.



Features of Maintaining a Partogram

Observation of the first stage of labor and monitoring the condition of the mother and fetus is carried out using a partogram, which graphically displays the following indicators on a time axis:

• The course of childbirth:

• Degree of cervical dilatation determined by internal obstetric examination (performed every 4 hours)

• Fetal head descent determined by abdominal palpation (performed every 4 hours)

• Frequency (per 10 minutes) and duration (in seconds) of contractions (measured every 30 minutes)

• The condition of the fetus:

• Fetal heart rate, assessed by auscultation or handheld Doppler (monitored every 15 minutes)

• Degree of fetal head engagement (assessed every 4 hours)

• Condition of the amniotic sac and amniotic fluid (evaluated every 4 hours)

• The condition of the woman in labor:

• Pulse and blood pressure (checked every 2 hours)

• Temperature (monitored every 4 hours)

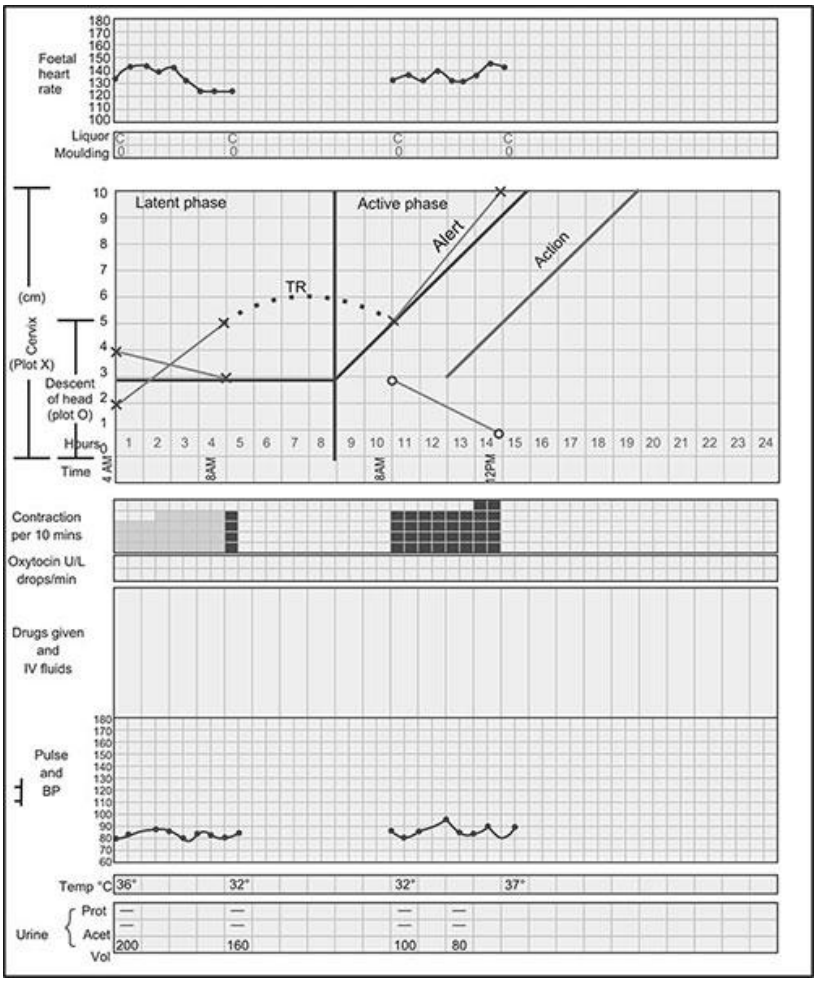
• Urine: volume; presence of protein or acetone, as indicated (measured every 4 hours)

Advantages of the Partogram:

• Effective monitoring of labor

• Timely detection of deviations from the normal course of labor

• Assisting in making necessary and appropriate interventions.



PRACTICAL LESSON № 7

«MANAGEMENT OF THE SECOND STAGE OF LABOUR IN BREECH PRESENTATION»

Objective is to gain basic knowledge about management of breech presentation, the mechanism of labor in breech presentation, manual assistance in breech presentation.

Basic concepts:

- types of breech presentation
- factors that may contribute to a fetus being in a breech presentation
- diagnostic criteria for breech presentation during externalexamination
- diagnostic criteria for breech presentation during vaginal examination
- pregnancy management of breech presentation
- mechanism of labor in breech presentation
- manual assistance in breech presentation

1. Control of the reference level of knowledge (written work, writtentest, online test, interviewed, etc.). Requirements for students' theoretical readiness to perform practicalclasses (knowledge requirements, list of didactic units).

Knowledge requirements:

SC1. Ability to collect medical information about the patient and analyze clinical data

SC2. Ability to determine the necessary list of laboratory and instrumental studies andevaluate their results

SC3. Ability to establish a preliminary and clinical diagnosis of the disease

SC4. Ability to determine the necessary regime of work and rest in the treatment andprevention of diseases

SC5. Ability to determine the nature of nutrition in the treatment and prevention of diseases

SC6. Ability to determine the principles and nature of treatment and prevention of diseases

SC8. Ability to determine tactics and provide emergency medical care

SC9. Ability to carry out medical evacuation measures

SC14. Ability to plan and carry out preventive and anti-epidemic measures for infectiousdiseases

List of didactic units:

- Fetal orientation
- Types of breech presentation
- Obstetric examination in breech presentation
- Diagnostic criteria for breech presentation
- Pregnancy management in breech presentation
- Mechanism of labor in breech presentation
- Manual assistance in breech presentation

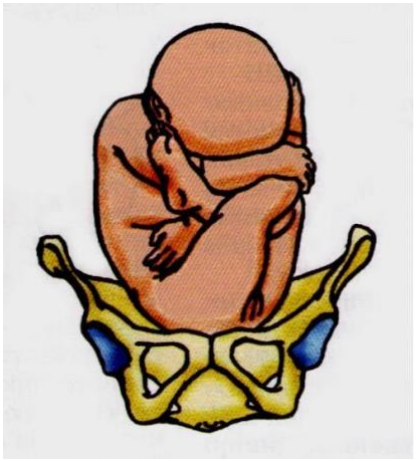
2. Questions (test tasks, problems, clinical situations) to check basic knowledge on the subject of the lesson.

Questions:

- What is complete breech presentation?
- What is frank breech presentation?
- What is single footling breech presentation?
- What is double footling breech presentation?
- What is kneeling breech presentation?
- What are diagnostic criteria for breech presentation at external examination?
- What are diagnostic criteria for breech presentation at vaginal examination?
- What are possible complications of breech presentation during pregnancy?
- What are possible complications of breech presentation during vaginal delivery?
- What are cardinal movements of the fetus during vaginal delivery incase of breech presentation?

Tasks

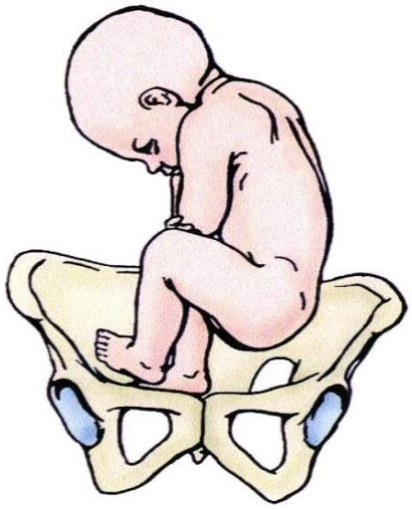
1. Identify the fetal orientation in the uterus.



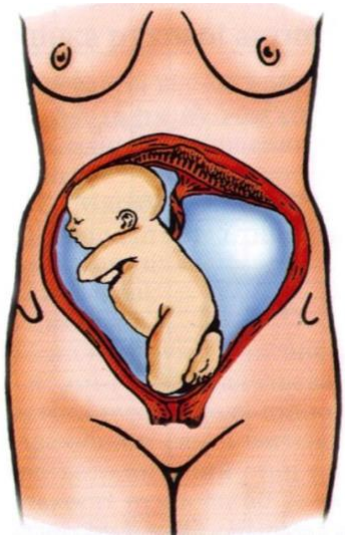
2. Identify the fetal orientation in the uterus.

3. Identify the fetal orientation in the uterus.

4. Identify the fetal orientation in the uterus.



5. Identify the fetal orientation in the uterus.



Clinical situation A

A 40 year-old primigravida has weak labor activity for 10 hours. The gestation age is 40 weeks. Pelvis size is 25-28-31-17 cm. Abdominal circumference is100 cm, fundal height is 38 cm. Fetal heart rate is 115/min., auscultated on the right above the navel, closer to the linea nigra. Internal obstetric examination: cervical dilation is 6 cm, amniotic sac is intact.

Identify the fetal orientation in the uterus.

What is the optimal mode for delivery in this clinical case?

Clinical situation B

A multigravida at 35-36 weeks of gestation arrived at the maternity ward. Labor activity is normal. Pelvis size is 26-29-30-21 cm. Fetal heart rate is 148/min., auscultated on the left above the navel, closer to the lateral abdominalwall. Abdominal circumference is 95 cm, fundal height is 33 cm. Internal obstetric examination revealed cervical effacement, opening by 8-9 cm. Amniotic sac is absent. Fetal buttocks are in the pelvic cavity.

Identify the fetal orientation in the uterus.

What is the optimal mode for delivery in this clinical case?

Clinical situation C

A woman, para 4, at 37 weeks, has an extended breech presentation. Pelvis size is 25-28-30-20 cm. Abdominal circumference is 100 cm, fundal height is 32 cm. The placenta is not low, and she is keen to deliver vaginally.

Choose from one of the following answers

A. Caesarean section
B. No intervention
C. External cephalic version
D. Attempted vaginal delivery with assisted breech delivery
E. Breech extraction
F. Offer admission to hospital and wait

Clinical situation D

A woman is in advanced labour with a breech presentation. She is fully dilated, has been pushing for an hour and the buttocks are not visible.

Choose from one of the following answers

A. Caesarean section

B. No intervention

C. External cephalic version

D. Attempted vaginal delivery with assisted breech delivery

E. Breech extraction

F. Offer admission to hospital and wait

Correct answers

Task 1 - Longitudinal lie. Incomplete breech presentation (frank breech presentation). Right sacrum posterior (RSP) position.

Task 2 - Longitudinal lie. Complete breech presentation. Left sacrum posterior (LSP) position.

Task 3 - Longitudinal lie. Incomplete breech presentation (single footling breech presentation). Right sacrum posterior (RSP) position.

Task 4 - Longitudinal lie. Incomplete breech presentation (double footling breech presentation). Left sacrum transverse (LST) position.

Task 5 - Longitudinal lie. Incomplete breech presentation (kneeling breech presentation). Left sacrum transverse (LST) position.

Clinical situation A - Longitudinal lie. Breech presentation. Right sacrum anterior (RSA) position. Caesarean section.

Clinical situation B - Longitudinal lie. Incomplete (frank) breech presentation. Left sacrum posterior (LSP) position. Attempted vaginal delivery with assisted breech delivery.

Clinical situation C - Attempted vaginal delivery with assisted breech delivery.

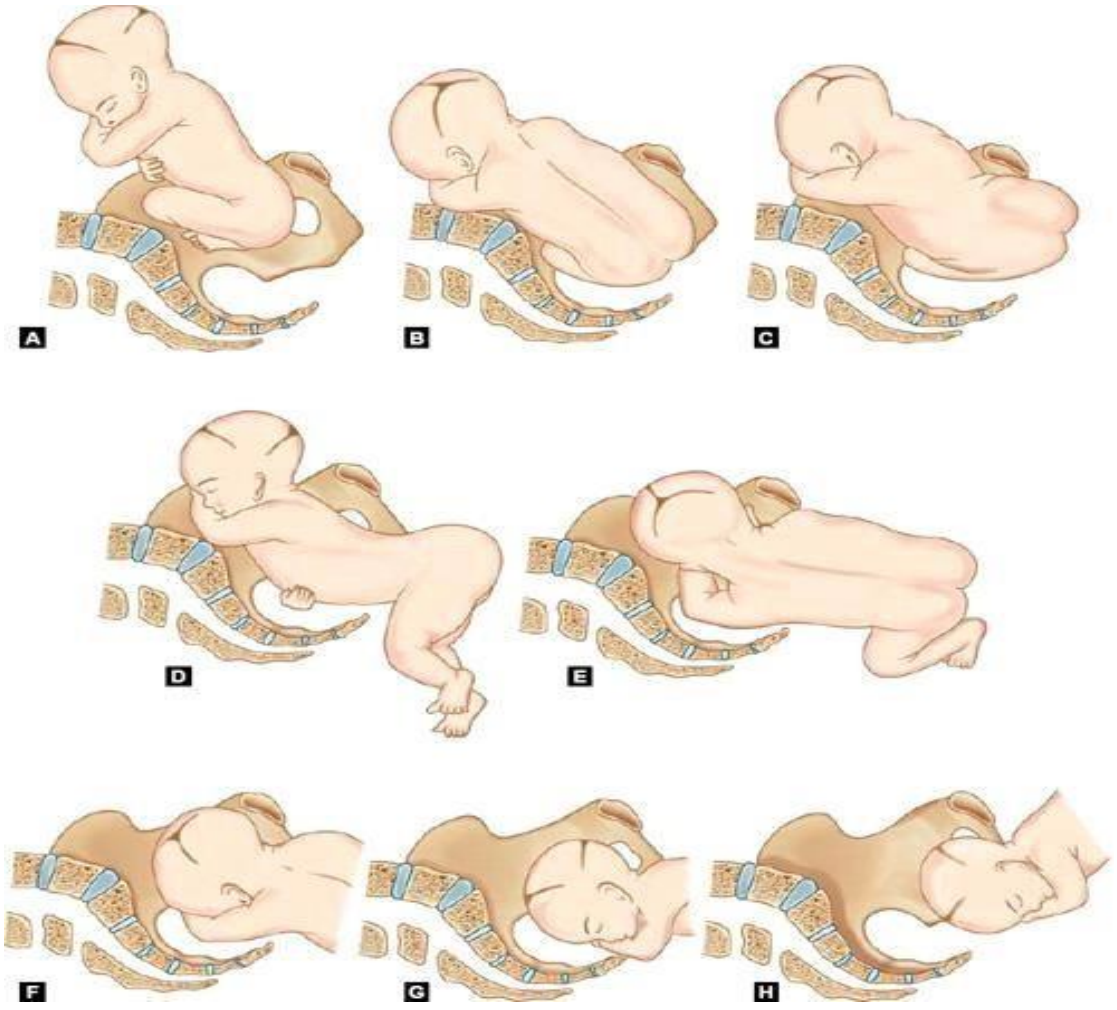
Clinical situation D - Caesarean section.

3. Formation of professional abilities and skills (mastery of skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.). Recommendations (instructions) for performing tasks (professional algorithms, orienting maps for the formation of practical skills and abilities, etc.).

During a full-term pregnancy the incidence of pelvic presentation is 3-4%, and during a

preterm pregnancy it is considerably higher - 1 in 5 labours in the term of pregnancy till 30 weeks. According to US prospective data, the pelvic presentation is usual for the fetus at the end of the II trimester of pregnancy. But as the result of the larger sizes of the pelvic ending of fetus in comparison with its head, gradually the major part of the fetuses acquire the cephalic presentationat III trimester.

Biomechanism of labour during the pelvic presentation has the same lawsas duringthe cephalic one, and consists of 7 moments (Fig.).



The first moment - insertion of buttocks in the cavity of the pelvic inlet. Linea intertrochanterica, or interbuttockal, plays the role of saggital suture during cephalic presentation and stands in the cavity of the pelvic inletby one of oblique sizes; sacrum of the fetus is turned to the front or to the back.

The second moment - lowering of the buttocks. While developing of parturition, buttocks

as the result of their compression lower into the pelvis. Theanterior buttock lowers the first, which is the entering point; a labour tumour forms on it.

The third moment - sacral rotation of the buttocks. Performing the oscillation movements, the buttocks pass the promontorium and lower into the wide part of the pelvic cavity.

The fourth moment - internal turn of the buttocks. Both the buttocks and the head make the internal turn and lower on the pelvic floor. A buttock line is set in the direct size.

The fifth moment - delivery of the buttocks and trunk till the inferior angle of the scapula. At first, the anterior iliac bone of the fetus is fixed to the inferior margin of the pubic arch, which works as a fulcrum, around which the fetal body is flexed to a high degree, and the posterior buttock is delivered. Then the anterior buttock rests too. The buttocks are delivered together with the legs in complete breech presentation, and the legs prolapse after the delivery of the body in frank breech presentation. After the lower end of the body has been delivered, it is deflexed and by a few contractions is delivered to the navel and then to the lower angle of the shoulderblades. The body is slightly turned with its back anteriorly.

The sixth moment - delivery of the upper extremities. The shoulder girdle performs the same movements as during the vertex presentation in the pelvis. Biacromial size of shoulders during the progressive move to the front transfers from the oblique diameter of the inlet in the direct diameter on the pelvic outlet. If the normal location of the fetus preserves, the column of the brachial bone of anterior arm fixates near the lowermargin of the pubic symphysis; the posterior arm is delivered the first, then the anterior arm moves out from the pubis. If the location of the fetus disturbs, the arm throws back, which requires a special obstetrical assistance.

The seventh moment - delivery of the head. The head enters in the pelvis simultaneously with delivery of the shoulders. Saggital suture is setin the oblique diameter of the pelvis, opposite to the biacromial size of the shoulders. Then the head performs all its movements, according with the laws of biomechanics, as during the occipital presentation. However, all movements occur rapidly, the head, if it is not straighten, moves by the small (9.5 cm) or middle oblique diameter (from the suboccipital fossa till the anterior margin of the anterior (major) fontanel - 10 cm). The head fixates with suboccipital fossa under the pubic

symphysis, and around this point of fixation the chin, face and fetal forehead disengage above the perineum.

Management of vaginal labour at pelvic presentation of the fetus is recommended to perform under following conditions:

- breech presentation of the fetus;
- normal sizes of the maternal pelvis;
- fetal weight less than 3,600 g, which is confirmed with 2 and more US;
- individual experience and skills of the doctor on management of labour of pelvic presentation of the fetus;
- presence of anaesthesiologic and neonatologic reanimation department.

At the I stage of labour one should prevent therupture of the fetal bladder, perform the prophylaxis of uterine inertia and intrauterine hypoxia of the fetus. Right after the discharge of amniotic fluid internal obstetrical examination to establish correctly the diagnosis and to prevent the cord prolapse is done. If the amniotic fluid bursted ill- timely and there is uterine inertia, a parturient woman is introducted adequate doses of oxytocin, prostaglandins or their combination. It should be remembered that only duringactive parturition a successful labour outcome is possible. Overdosage of the tonomotor drugs can causeacute hypoxia of the fetus, pretem separation of the placenta. That's why during prolonged uterine inertia (during 3 h) and intensification of the fetal hypoxia itis expedient to change the plan of labour management and begin caesarean delivery.

II stage of labour requires a particular attention. 1 ml of 0.001% solutionof atropine sulfate or other spasmolytic drugs are introduced intravenously for prophylaxis of the cervical spasm in 30-40 min before delivery of the child. To reduce a possibility of labour injury and make the head delivery easier, episiotomy and pudendal anaesthesia are done. The heart rate of the fetus is auscultated after each prelum muscles contraction. A parturient woman inhales the oxygen in intervals between the prelum muscles contractions. From the disengagement of the buttocks of the fetus a parturient woman is laid on the edge of the bed, a polster is put under the sacrum to reduce the angle of the pelvic slope. Some obstetricians recommend to press the hips to the abdomen during the prelum muscles contractions.

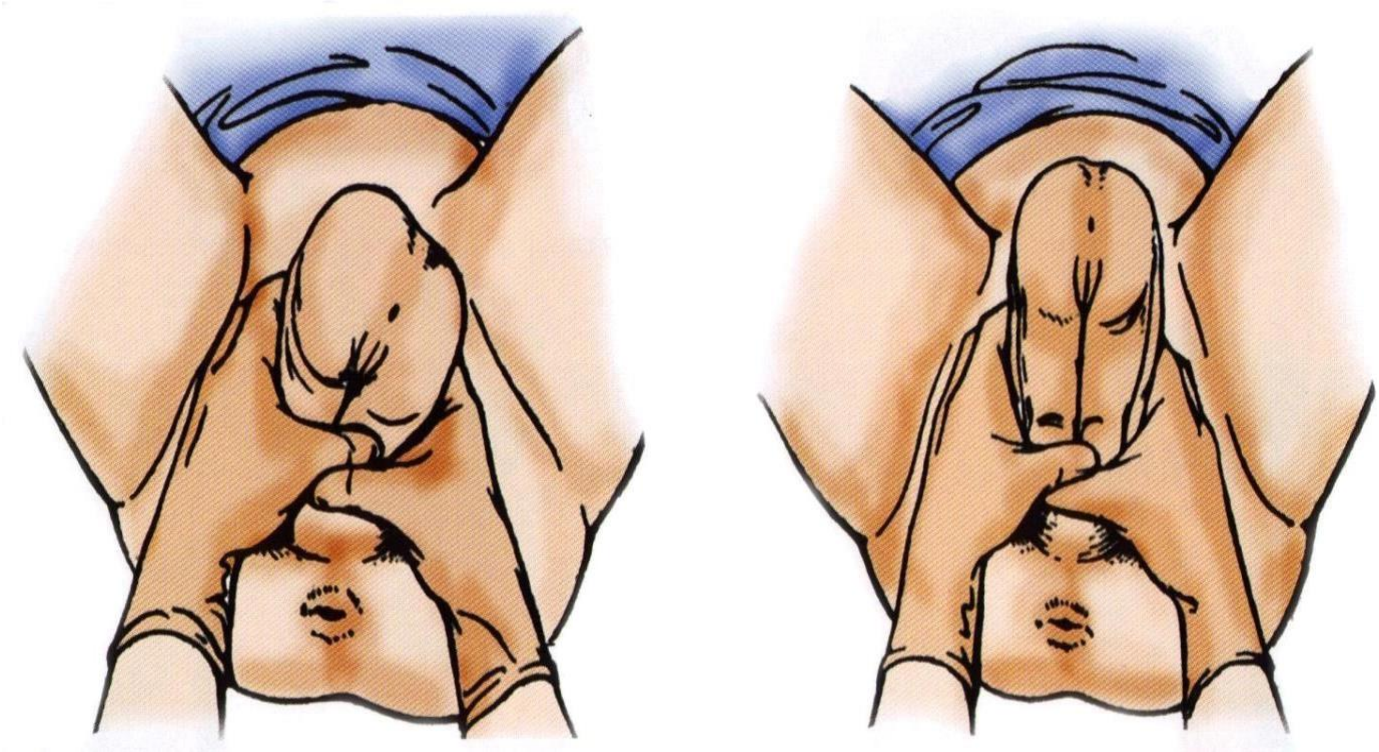
Discharge of meconium by the fetus during the pelvic presentation occurs mechanically and is not the sign of hypoxia of the fetus.

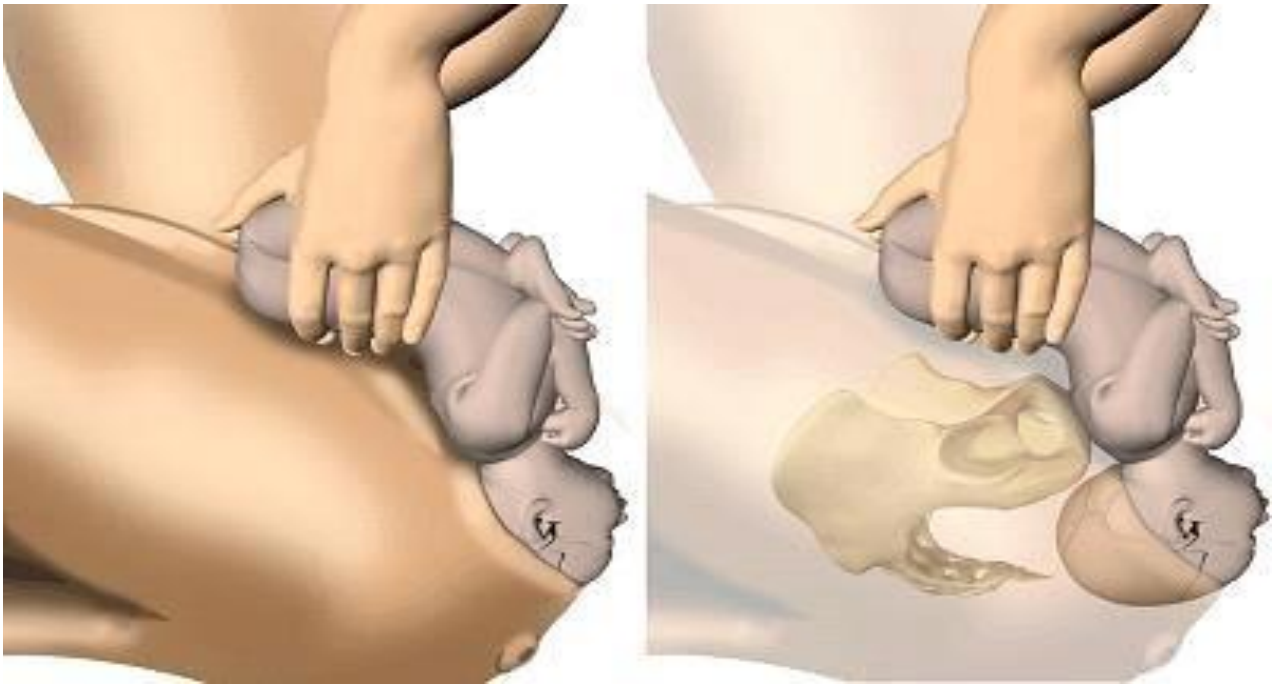
In management of labour of the pelvic presentation of the fetus there are 4 stages:

- delivery of the fetus till the umbilicus;
- delivery of the fetus till the inferior angle of the scapulas;
- delivery of the arm;
- delivery of the head

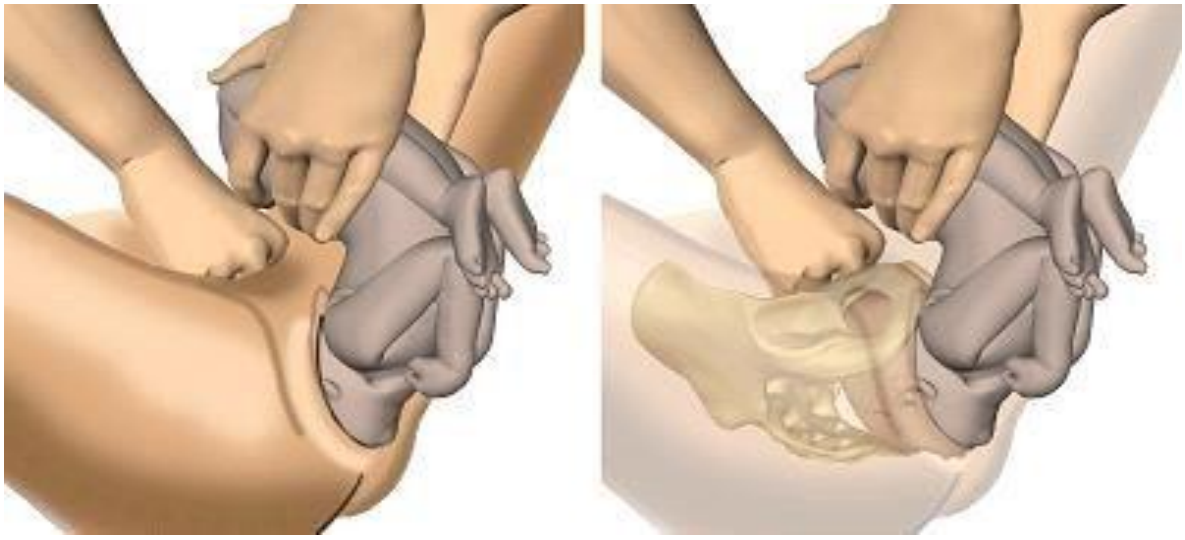
In Ukraine during labour management of pelvic presentation of the fetus a manual assistance according to M. A. Tsovyanov is applied.

Manual assistance according to Tsovyanov I (during the breech presentation of thefetus) is based on the moment that after the disengagement of the buttocks, the obstetrician takes them with the hand by such a way that thumbs locate on the pressed to the abdomen legs of the fetus, and other 4 fingers - along the sacrum.

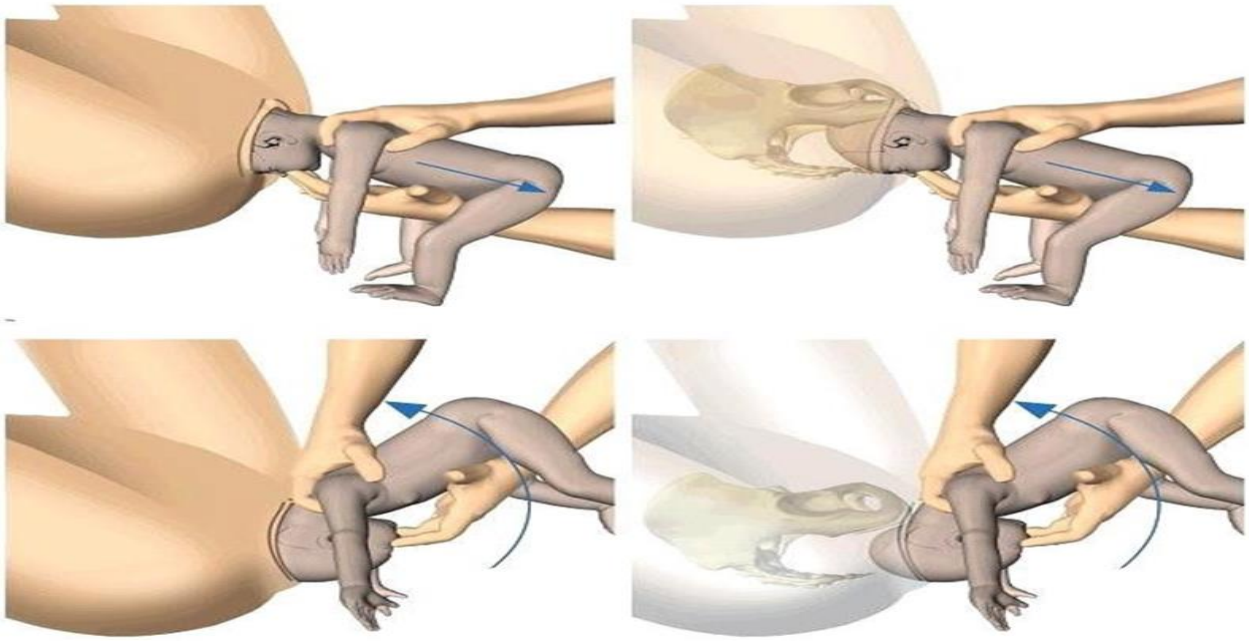




The trunk of the fetus lifts up - along the axis of labour canal. Such location of obstetrician's hands prevents the preterm prolapse of the legs, droping of the buttocks and contributes to the upward moving of the body - to the pubis. Whilethe trunk delivers, obstetrician's hands slide along it, staying with the pudendal slit of the parturient woman. It should be remembered that tractions are forbidden. The doctor should slide the hand along the trunk of the delivering fetus. After the disengagement of the girdle of the upper extremities, the hand can prolapse. It is important that legs should not be prolapsed earlier than delivery of the shoulder girdle. If the arms of the fetus do not deliver by themselves, the doctor without changing the position of his hands sets the shoulder girdle in the direct diameter of the pelvic outlet and deviates the trunk of the fetus to the back. During this the anterior arm moves out from the pubic arch. Then the trunk should be lifted up, make delivery of the posterior arm from the pubic arch easier. In the depth of the pudendal slit the chin and mouth of the fetus appear. The trunk is lifted up to deliver the fetal head. Careful, but powerful pressing on the pubic arch by the obstetrician (Naujok method) can assist delivery of the head.



If delivery of the head delays, it is released by Mauriceau-Leuvret maneuvre. In order to extract the head by the Mauriceau - Leuvret method the fetus is sit down on the obstetrician's forearm. By the second finger in the mouth of the fetus the doctor holds the head flexed. By the second and middle fingers of the free arm he takes the shoulder girdle of the fetus. Tractions are carried out by a free arm firstly downwards - to forming of the point of fixation of the suboccipital fossa above the pubis, then - upwards. Movements should be careful to prevent the injuries of the cervical segment of the vertebral column ofthe fetus.



Manual assistance by Tsovyanov II of the foot presentation is based on the making a barrier for moving the fetus to intensify the parturition. As soon as thelegs appear

from the vagina, the doctor should cover the external genitalia witha sterile napkin and with his palm during each pain counteract the preterm prolapse of the legs out of the pudendal slit.

Such counteraction is required till the complete dilation of the uterine orifice. Till this time the buttocks lower down on the pelvic floor, and fetus squats down forming a mixed breech presentation. Counteraction is stopped, when the legs of the fetus begin to move out from the palm of the obstetrician. This method can be applied during mixed breech presentation; actions are made untill the pelvic ending of the fetus lowers down on the pelvic floor. If during the Tsovyanov's assistance after delivery of the fetus till the umbilicus its further independent move stops, it is necessary to perform classical obstetrical assistance to release arms and head. Each arm is released by a proper arm of obstetrician - the right - by the right, the left - by the left. The posterior hand is released the first, which locates above the perineum (more space for manipulations). The trunk of the fetus with legs are lifted up - to the inguinal plica of the mother. By the second and middle fingers of the hand, corresponding to the posterior hand of the fetus, the obstetrician slides to the front on the back of the fetus along the scapula, presses on the crook of an arm, and by slides along the chest of the fetus, extracting its posterior arm. The anterior arm is transferred to the posterior, turning the trunk of the fetus by 180°; back of the fetus should pass under the pubic symphysis. The second arm is extracted the same as the first one.

4. Summing up(criteria for evaluating learning outcomes).

Current control:oral survey, assessment of communication skills during role play, solving situational clinical tasks, assessment of activity in class.

Final control: balance

Evaluation of the current educational activity at the practical class:

1. Evaluation of theoretical knowledge on the subject of the lesson:

- methods: survey, solving a situational clinical problem
- the maximum score is 5, the minimum score is 3, the unsatisfactory score is 2.

2. Evaluation of work with patients on the subject of the lesson:

- methods: evaluation of: a) communication skills of communicating with the patient b) the correctness of prescribing and evaluating laboratory and instrumental studiesbefore using a contraceptivein)the ability to provide family planning counseling.
- the maximum score is 5, the minimum score is 3, the unsatisfactory score is 2.

The grade for one practical class is the arithmetic average of all components and can only have a whole value (5, 4, 3, 2), which is rounded according to the statistical method.

Current assessment criteria at the practical class

Rating	Evaluation criteria
"5"	The student is fluent in the material, takes an active part in discussing and solving a situational clinical problem, confidently demonstrates the skills of counseling on family planning and the correct appointment of laboratory and instrumental studies before using a contraceptive, expresses his opinion on the subject of the class, demonstrates clinical thinking.
"4"	The student has a good command of the material, participates in the discussion and solution of a situational clinical problem, demonstrates the skills of family planning counseling and the correct appointment of laboratory and instrumental studies before using a contraceptive with some errors, expresses his opinion on the topic of the class, demonstrates clinical thinking.
"3"	The student does not have sufficient knowledge of the material, is unsure of participating in the discussion and solution of the situational clinical problem, demonstrates the skills of family planning counseling and the correct appointment of laboratory and instrumental studies before using a contraceptive with significant errors.

LIST OF RECOMMENDED LITERATURE

Basic:

1. Obstetrics: student's book / Акушерство: підручник / Gladchuk I.Z., Ancheva I.A. Vinnytsia: Nova Knyga, 2021. –288 p.
2. Obstetrics and Gynecology: in 2 vol.: textbook. Volume 2. Gynecology / V.I. Gryshchenko, M.O. Shcherbina, B.M. Ventskivskyi et al.; edited by V.I. Gryshchenko, M.O. Shcherbina. — 3th edition. – K.: AUS Medicine Publishing, 2022 – 352 p.
3. Obstetrics and Gynecology: in 2 vol.: textbook. Volume 1. Obstetrics / V.I. Gryshchenko, M.O. Shcherbina, B.M. Ventskivskyi et al.; edited by V.I. Gryshchenko, M.O. Shcherbina. — 2th edition. – K.: AUS Medicine Publishing, 2018 – 392 p.
4. Oats, Jeremy Fundamentals of Obstetrics and Gynaecology [Text]: Liewellyn-Jones Fundamentals of Obstetrics and Gynaecology / J. Oats, S. Abraham. – 10th ed. – Edinburgh [etc.]: Elsevier, 2017. – VII, 375 p.
5. Llewellyn-Jones Fundamentals of Obstetrics and Gynaecology (10th Ed). Jeremy Oats, Suzanne Abraham. Elsevier. 2016. – 384 pp.
6. The FIGO Textbook of Pregnancy Hypertension. An evidence-based guide to monitoring, prevention and management. L. A. Magee, P. Dadelszen, W. Stones, M. Mathai (Eds), The Global Library of Women's Medicine. – 2016. – 456 pp.
7. Dutta, Durlav Chandra. D. C. Dutta's Textbook of Gynecology including Contraception / D.C. Dutta; ed / Hiralal Konar. – 7th.ed. – New Delhi: Jaypee Brothers Medical Publishers, 2016. – XX, 574 p.

Additionally:

1. The FIGO Textbook of Pregnancy Hypertension. An evidence-based guide to monitoring, prevention and management. L. A. Magee, P. Dadelszen, W. Stones, M. Mathai (Eds), The Global Library of Women's Medicine. – 2016. – 456 pp.
2. Obstetrics: Normal and Problem Pregnancies, 7th Edition S. Gabbe, J. R. Niebyl, J. L. Simpson, M. B. Landon, H. L. Galan, E. R. M. Jauniaux, D. A. Driscoll, V. Berghella and W. A. Grobman, Elsevier. – 2017. – 1320 pp.
3. Modern technical teaching aids (see appendix to the work program of the 4th year)

4. Prevention of purulent-septic complications during laparoscopic surgeries on pelvic organs with the risk of vaginal microbiota contamination / Zaporozhan VN, Gladchuk IZ, Rozhkovska NM, Volyanska AG, Shevchenko OI //World of Medicine and Biology. - 2020- №1 (71). - P.49- 53. (Web of science)

5. Normative documents of the Ministry of Health of Ukraine on obstetrics and gynecology:

- Order No. 676 of 12/31/2004 "On approval of clinical protocols for obstetric and gynecological care"
- Order No. 782 dated 12.29.2005 "On the approval of clinical protocols for obstetric and gynecological care"(as amended in accordance with the orders of the Ministry of Health)
- Order No. 900 of 12/27/2006 Clinical protocol on obstetric care. "Fetal distress during pregnancy and childbirth."
- Order No. 901 dated 27.12.2006 Clinical protocol on obstetric care. "Transferred pregnancy".
- Order No. 906 of 12/27/2006 Clinical protocol on obstetric care. Perinatal infections.
- Order No. 540 dated 04.08.2006 On approval of the principles of breastfeeding support, criteria and procedure for evaluating a health care facility for compliance with the status "Child-friendly Hospital".
- Order No. 716 dated 14.11.2007 "On the approval of the clinical protocol for obstetric care "Prevention of transmission of HIV from mother to child".
- Order No. 502 dated August 29, 2008, "On approval of the clinical protocol for antibacterial prophylaxis in surgery, traumatology, obstetrics and gynecology"
- Order No. 624 03.11.2008 Clinical protocol for obstetric care "Normal childbirth".
- Order No. 417 dated 15.07.2011 "On the organization of ambulatory obstetric and gynecological care in Ukraine"
- Order No. 976 of 12/27/2011 Vaginal delivery after caesarean section (C-section)

- Order No. 977 of 12/27/2011 Clinical protocol for obstetric care "Caesarean section".
- Order No. 423 dated 05/24/2013 "On approval of the procedure for providing complex medical care to a pregnant woman during an unwanted pregnancy, forms of primary accounting documentation and instructions for filling them out"
- Order No. 955 dated 05.11.2013 "Procedurecarrying out emergency post-contact prevention of HIV infection among employees in the performance of professional duties".
- Order No. 59 dated 21.01.2014 On the approval and implementation of medical and technological documents on the standardization of medical care for family planning.
- Order No. 205 dated 03.24.14. Clinical protocol "Obstetric bleeding".
- Order No. 236 dated 02.04.2014 "Papproval and implementation of medical and technological documents on the standardization of medical care for dysplasia and cervical cancer".
- Order No. 319 dated 06.04.2016 "On the approval and implementation of medical and technological documents on the standardization of medical care for genital endometriosis"
- Order No. 353 dated 04/13/2016 "On the approval and implementation of medical and technological documents on the standardization of medical care for abnormal uterine bleeding"
- Order No. 869 dated 05.05.2021 "On approval of the unified clinical protocol of primary, secondary (specialized), tertiary (highly specialized) medical care "Endometrial hyperplasia"

ELECTRONIC INFORMATION RESOURCES

1. https://www.cochrane.org/- Cochrane / Cochrane Library
2. https://www.acog.org/- The American College of Obstetricians and Gynecologists
3. https://www.uptodate.com– UpToDate
4. https://online.lexi.com/- Wolters Kluwer Health

5. https://www.ncbi.nlm.nih.gov/- National Center for Biotechnology Information / National Center for Biotechnology Information
6. https://pubmed.ncbi.nlm.nih.gov/- International Medical Library / National Library of Medicine
7. https://www.thelancet.com/- The Lancet
8. https://www.rcog.org.uk/- Royal College of Obstetricians & Gynecologists
9. https://www.npwh.org/- Nurse practitioners in women's health
10. http://moz.gov.ua- Ministry of Health of Ukraine
11. www.ama-assn.org– American Medical Association /American Medical Association
12. www.who.int- World Health Organization
13. www.dec.gov.ua/mtd/home/- State Expert Center of the Ministry of Health of Ukraine
14. http://bma.org.uk– British Medical Association
15. www.gmc-uk.org- General Medical Council (GMC)
16. www.bundesaerztekammer.de– German Medical Association

www.euro.who.int- European Regional Office of the World Health Organization