

The Alberta College of Paramedics



Alberta Occupational Competency Profile (AOCP)
Upgrade "Gap" Training Program

Emergency Medical Technologist -
Paramedic (EMT-P)

Intrapartal Assessment Module

Study Guide

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Acknowledgements & General Information

INTRODUCTION

The overall goal of this program is to provide standardized upgrade “gap” education to ensure that all regulated practitioners of the Alberta College of Paramedics (College) meet the *Health Professions Act*, Paramedic Regulation and the scope of practice as defined by the Alberta Occupational Competency Profiles (AOCP) for the profession.

The Alberta Occupational Competency Profiles (AOCP) were developed through the facilitation of Dr. Bill DuPerron of Alberta Health and Wellness. Many College regulated practitioners were involved in compiling and organizing information about the roles and functions of paramedics, emergency medical technicians and emergency medical responders into the Profile.

The completion of the AOCP for the College is an important milestone for the profession. The document is a result of a collaborative partnership with the College and Alberta Health and Wellness plus the work and effort of members of the College.

The Competency Profile describes the vast expanse of competencies in Alberta at the present time as well as additional changes in scope of practice, which are identified in the Upgrade “Gap” Training Program. Each module in the “Gap” Training Program covers the additional competencies for a specific Competency Cluster as identified in the AOCP for each of the three disciplines regulated by the College. The Profile includes the knowledge, skills, attitudes, and judgments related to a variety of roles held by registered practitioners of the College.

BACKGROUND

The Health Professions Act (HPA) governs all regulated health professions in Alberta. The HPA was passed by the Alberta Legislature in May 1999 and in December 2001 the Order in Council proclaiming the Health Professions Act was signed by the Lieutenant Governor.

The HPA replaces a regulatory system (the *Health Disciplines Act*) that included multiple statutes that had different registration, continuing competence and investigation and disciplinary processes. Under the HPA, previous legislated exclusive scopes of practice will be eliminated and replaced with an “overlapping scope of practice” model based on restricted activities. Restricted activities are health services that only authorized persons may provide.

STRUCTURE OF THE HPA

The HPA will deal with processes such as registration, continuing competence, professional conduct, restricted activities, investigation and discipline that apply to all the professions. Each of the 28 professions will have their own regulation that will address in detail, profession specific areas such as required qualifications for entry into the profession. The Paramedic profession is expecting to be governed by the HPA in the near future.

ABOUT THE AOCP

Most of the competencies have been learned in basic education; other competencies have been acquired through advanced education, on the job training, and experience. All EMRs, EMTs and EMT-Ps have the basic competencies; however, competency on the job will vary depending on job requirements, and policy and procedure of the employing agency.

The Profile provides a cumulative view of the competencies within the Scope of Practice and within the general and specialized areas of that practice.

The College has developed the following educational module for upgrading the knowledge and skills of registered practitioners to meet the Alberta Occupational Competency Profiles (AOCP), the new Regulation and scope of practice.

HISTORY OF THE PROCESS

On March 4, 2000, the Paramedic Association of Canada adopted the National Occupational Competency Profile (NOCP), which included both a new classification and generic competencies for four professional designation levels of Paramedicine.

On March 22, 2000, the Alberta College of Paramedics' Council made the commitment that the Alberta College of Paramedics AOCP would meet or exceed the NOCP.

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About the Authors (Portage College)

Portage College (formerly Alberta Vocational Center, Lac La Biche) was established in 1968. The College currently offers over 30 certificate and diploma programs in six areas of study: Business, Human Services, Native Cultural Arts, Trades and Technical, Health and Wellness and Academic Upgrading. Over 1800 students are served annually through campuses in 13 northern Alberta communities, with another 1,300 taking short term or customized training programs each year.

Portage College has been offering prehospital care training program since the mid 1980s. Portage College is currently approved by the Alberta College of Paramedics for the following Paramedicine programs:

Emergency Medical Responder (EMR)

Emergency Medical Technician (EMT)

Emergency Medical Technologist-Paramedic (EMT-P)

Disclaimer

Portage College and the Alberta College of Paramedics have attempted to ensure that the information is in context relevant to the practitioner and is as concise as possible. Portage College has used a variety of resource materials in order to provide a solid base of up-to-date information.

If any of the information contained within this module contradicts the direction you have received from your employer/medical director, the policy of your employer should take precedence over the information in this module.

As a regulated practitioner of the Alberta College of Paramedics, while under the *Health Disciplines Act*, you may only deliver health services which fall within your scope of practice and is in accordance with the provisions of the *Health Disciplines Act* or the *Health Professions Act* when the HPA is implemented.

Any content contained in this module that is beyond your scope or not within your current competence does not authorize you to deliver those health services. That is, if a given health service is not within your scope of practice and/or you have not yet attained the competency, you may not deliver that health service.

Alberta Occupational Competency Profile (AOCP)

Training Program

Learning Goal

This educational training is intended to review and upgrade the competencies of the Alberta College of Paramedics registered practitioners in order to meet the requirements of the new regulation under the Health Professions Act including the Alberta Occupational Competency Profile (AOCP) and scope of practice.

Program Objective

To provide standardized education to registered practitioners to ensure that all regulated practitioners of the Alberta College of Paramedics meet the regulation and defined scope of practice for the profession.

Program Format

The Alberta Occupational Competency Profile (AOCP) training program will combine independent study modules and scheduled lab skills assessment sessions. Certification will be granted on successful completion of all program requirements.

Independent Study Modules

There are ten EMTP – AOCP continuing education modules to be completed.

1. Intraosseous
2. Transcutaneous Pacing
3. Blood Products
4. Urinary Catheterization
5. Monitoring Chest Tubes
6. Arterial Blood Gas Samples
7. Intrapartal Assessment
8. Suturing and Hemostat Application
9. Femoral Venipuncture
10. Nasotracheal Intubation

Lab Skill Assessment

All skills identified for each module will be assessed during the lab skills assessment for that module.

Exam

Mastery of the each module's content will be assessed through multiple-choice exams during the lab sessions. These exams are open book and can be found in each module following the module summary.

EMT-P – Intrapartal Assessment Competencies

This module meets the following competencies of the Alberta Occupational Competency Profile (AOCP).

D-4-1 Perform an obstetrical history:

- Multiparity;
- Estimated date of confinement;
- Last normal menstrual period;
- Meconium staining;
- Bleeding;
- Mucous plug;
- Membranes ruptured;
- Pre-natal care;
- Presence of contractions;
- Onset;
- Frequency;
- Duration;
- Strength;
- Para / gravida;
- Maternal medications;
- Maternal risk factors.

D-4-2 Perform an obstetrical assessment:

- Fetal heart monitoring;
- Visual examination;
- Crowning
- Show
- Membranes (intact / ruptured)
- Meconium staining.

D-4-3 Perform an internal digital exam during third trimester.

Intrapartal Assessment Module Overview

Introduction

A Paramedic can expect to encounter women in all stages of pregnancy, labor and delivery. Although our training focuses on the recognition and treatment of the life-threatening complications that put the mother and the fetus at risk, the majority of pregnancies we see progress in a natural and predictable manner. In these situations our skill becomes the ability to recognize the progression of labor and ensure the delivery of the fetus occurs in the safest environment possible. By determining the labor progress through a vaginal examination we are able to predict whether delivery is imminent or that we have enough time to safely transport the mother in labor to a tertiary care facility.

Learning Objectives

Upon completion of this module the Paramedic will be able to:

1. Define the four stages of labor.
2. Define the components of an intrapartal assessment.
3. Demonstrate the knowledge and correct procedure for an internal vaginal exam.

Learning Activities

Recommended Resources

Each module identifies specific content students must cover to meet the module learning objectives.

Key Terms

Students are to define the *Key Terms* identified for each learning objective.

Exam

Mastery of the module content will be assessed through a multiple-choice exam during the lab sessions. This exam is open book and can be found in this module following the module summary.

Lab Skills Practice

Students are to review the skills identified in the *Lab Skills Checklist* provided in Appendix A. Review of these checklists is essential preparation for the lab skill assessments, which are mandatory for successful completion of this module.

Objective 1

Define the Four Stages of Labor

True labor produces progressive dilation and effacement of the cervix. Contractions are regular and increase in frequency and intensity. Pain usually starts in the back and radiates around to the abdomen. Labor consists of four main stages as outlined below.

First Stage of Labor

The latent phase of labor, from 0 - 4 cm, usually lasts 8 - 12 hours in the primip and 6 - 8 hours in the multip. During the first page of labor the woman is usually excited, happy and talkative. Contractions usually occur every 5 - 20 minutes are mild and last 15 - 30 seconds. She may complain of a backache, a crampy feeling, show and membranes may rupture. If the latent phase of labor lasts more than 12 hours or fails to produce cervical dilatation, the labor is considered abnormal.

The active phase of labor, the cervix usually dilates at a rate of 1.2 cm/hr in a primip and 1.5 cm/hr in a multip. This phase of labor is considered to be from 4 - 8 cm of cervical dilatation. Contractions occur every 3 - 5 minutes, are 30 - 60 seconds in duration and are moderate to strong in intensity. The women often feel apprehensive, uncertain about her coping abilities, preoccupied with herself and her labor. She isn't smiling anymore. She may be diaphoretic and restless.

The transitional phase of labor occurs from 8 - 10 cm of cervical dilatation. It is short, but extremely intense. There will be more show, contractions will occur every 2 - 3 minutes, last 60 - 90 seconds and are strong. The woman may have leg cramps, tremble, be restless, irritable, experience nausea and vomiting, be diaphoretic and complain of increased rectal pressure. Dilatation progresses at an average rate of 1 cm/hr for a primip and 2 cm/hr for a multip. Assess the perineum for bulging and increased show that can indicate the start of stage two.

Second Stage of Labor

Signs that the woman has reached full dilatation and is in the *second stage of labor* are expulsive uterine contractions, dilatation and gaping of the anus, appearance of the presenting part, increased show, and congestion of the vulva. It is important to note that other factors can result in all of these signs, especially if the woman has a strong urge to push before full dilatation. The only way full dilatation can be confirmed is by doing a vaginal exam and determining if any cervix remains. The second stage of labor should not last more than two hours, however in the multip this stage could be as short as 20 minutes.

The two most important things to remember when caring for a woman in labor are:

1. ***Never*** leave a woman alone if you think she may be fully dilated.
2. Don't panic. Stay calm and controlled.

You should have an emergency OB kit, which contains all the materials necessary for delivery. These are sterile scissors, hemostats or cord clamps, bulb syringe, towels, sponges, sterile gloves, baby blanket, sanitary pads and a plastic bag.

It is desirable to control the rate of delivery; a very quick second stage can put the mother and baby at risk for injury. During the crowning phase, coach the mother to pant rather than push to prevent an expulsive delivery causing damage to the patient's perineum and trauma to the baby. At the same time, apply gentle pressure to the mother's perineum to slow the rate of delivery of the baby's head. (**Do not** try to push the head back in).

When delivering the anterior shoulder do not pull down too forcefully, as it can lead to laceration of the perineum. Check for a cord around the neck (nuchal cord) after the head is delivered. If the cord can be slipped over the head, slip it over. If it is tight, double clamp and cut it.

Often oxytocin is given after delivery of the shoulder or the head to prevent excessive bleeding and promote separation of the placenta.

- Syntocinon 10 units IM is common, if there is an IV running, syntocinon 5 or 10 units can be given
- Some physicians prefer to wait until after delivery of the baby to give oxytocin to allow time to check for undiagnosed twins

Third Stage of Labor

The *third stage of labor* starts with delivery of the newborn and ends with delivery of the placenta. It can be as short as five minutes, it should not last more than 30 minutes after administration of an oxytocin.

Signs that the placenta has separated and is ready for delivery are:

- A change in the shape of the uterus.
- A rise of the fundus in the abdomen.
- The umbilical cord lengthens (if you clamp the cord close to the perineum, this will be more obvious).
- And a gush of blood.

***Please Note:** Do not pull on the cord before separation of the placenta and do not pull with undue force. This could result in a torn cord, retained placental parts and/or a uterine prolapse.

The placenta must be checked for completeness. Observation of the maternal side of the placenta will reveal "chunks" or *cotyledons*. They must all be present; a missing cotyledon can result in a postpartum hemorrhage. Membranes should also be checked to see if they make a complete bag. Membranous tissue that is left in the uterus can cause postpartum hemorrhage and infection.

Fourth Stage of Labor

The first hour after delivery is an important one, as the mother's body starts the return to its pre-pregnant state. With the blood loss during delivery and the weight of the uterus off the surrounding vessels, blood is redistributed into the venous beds. This results in a moderate drop in BP, increased pulse pressure and moderate tachycardia. The uterus should be well contracted and midline. To assist, massage the fundus and check fundal tone every 15 minutes. The mother requires close observation at this point, to insure that her bleeding remains within normal limits (approximately 250 – 500 ml of blood and/or no more than 2 obstetrical pads, soaked with blood, within the first hour) and that her fundus remains firm. Because of this, the first hour after delivery is referred to as the *fourth stage of labor*. The woman at this point is often cold, shaky and tired. Warm blankets and a snack will help boost her physical resources. Watch for urinary retention. The mother at this point is usually absorbed with her baby and is pleased with the outcome of her labor and delivery.

Objective 1: Key Terms

- latent phase
- active phase
- transitional phase
- second stage of labor
- third stage of labor
- fourth stage of labor
- cotyledon

Objective 2

Define the Components of an Intrapartal Assessment

History

The history is an essential component in the assessment of all patients. With experience the Paramedic becomes proficient in completing thorough histories and assessments in a variety of patient types. Of these, it is the obstetrical patient that deviates from the norm and requires information specific to the pregnancy in addition to the SAMPLE history common to prehospital care. .

Many Paramedic references limit the obstetrical history to a para and grava number. As this old classification system only counted the number of pregnancies it was limiting and has fallen out of favor. GTPALM is a more specific breakdown to describe a woman's obstetrical history; it is widely accepted in Alberta-wide hospitals and referenced in most obstetrical and nursing textbooks. Other important components of the obstetrical history are: the patient's last known menstrual period (LNMP) – (to help determine the baby's due date) and the patient's prenatal records (has she been seen regularly throughout her pregnancy by a physician?)

G	Gravida – number of pregnancies (including the present pregnancy)
T	Term – number of term infants born (<u>not</u> including this pregnancy)
P	Preterm – number of preterm infants born (not including this pregnancy)
A	Abortion – number of pregnancies resulting in spontaneous or therapeutic abortion
L	Living – number of currently living children
M	Multi – multiple births

The Four M's

M	Maturity – gestational weeks (estimated date of confinement - EDC)
M	Multipara – number of deliveries (is there more than one fetus?)
M	Meconium – is it present
M	Medications – has the mother taken any

Abdominal Palpation

Abdominal palpation for fetal position and presentation should always precede an initial vaginal examination. The mother's comfort is extremely important during examination, always have her empty her bladder before the examination. A full bladder makes it difficult to palpate thoroughly and is uncomfortable for the mother. Have her lie on her back with her abdomen exposed. Place a pillow under her head and have her knees drawn up a little. Ensure that your hands are warm during palpation and perform this exam between contractions.

Lie

The mother's abdomen should be observed for size and shape. The lie of the fetus should be assessed by visualizing if the uterus has a *longitudinal lie* (projects up and down) or a *transverse lie* (projects left or right).

Leopold's maneuvers are a systematic examination by palpation of the maternal abdomen. Frequent practice can improve your skill in determining fetal position by palpation.

Leopold's maneuvers

First maneuver:

Facing the mother, palpate the upper abdomen (fundus) with both hands assessing for shape, size, consistency and mobility of what you are palpating. It is the fetal head if it is firm, hard and round moves independently of the rest of the form you are feeling. It is the breech (buttocks) if it feels softer has bony prominences and moves with the rest of the form you are feeling.

Second maneuver:

Once you have determined what part of the fetus occupies the fundus you must determine the position of the fetal back and whether it is on the right or left side of the mother's abdomen. Still facing the mother, place both of you palms on the abdomen. Hold your right hand still and with deep but gentle pressure palpate use your left hand to palpate the right side of the mother's abdomen, feeling for the firm, smooth back of the fetus which will connect the part of the fetus you determined was in the fundus, with the remainder of the fetal mass located in the inlet (lower abdomen). Repeat this procedure keeping your left hand still palpating the left side of the mother's abdomen. Once you have located the fetal back, confirm you findings by palpating the fetal extremities (small protrusions) on the opposite side of the abdomen.

Third maneuver:

Next, determine what fetal part is lying above the inlet by gently grasp the lower portion of the abdomen (just above the symphysis pubis) with the thumb and fingers of the right hand. This will confirm, with the opposite information you found in the fundus, what is the presenting part. If it is the head and it is not engaged in the pelvis, it may be gently pushed back and forth.

Fourth maneuver:

This maneuver is attempting to locate the cephalic prominence or brow of the fetus. This will assess the descent of the presenting part into the pelvis. Move your fingers of both hands gently down the sides of the abdomen towards the pubis. The cephalic prominence (brow) is located on the side that has the greatest resistance to the descent of your fingers towards the pubis.

Fetal Presentation and Position

The fetal head position can only be assessed once dilation has begun. During the vaginal exam insert your fingers posteriorly until you feel the fetal head. Next, move your fingers across the head until you feel the sagittal suture line. Once this is done locate both the anterior (diamond shape) and posterior (triangular shape) fontanelles to determine whether the position of the fetal head is face up (anterior fontanelle is superior) or face down (anterior fontanelle is inferior).

Mentum, shoulder and footling presentations account for about 1% of all births. Buttocks or sacrum (breech) presentations account for about 3% of all births, and vertex (occiput) presentations account for about 96% of all births.

The fetal presentations given as examples on the next page are determined by the fetus' location in the birth passage and is defined by the following:

The **first letter** for fetal position is in relation the mother's anatomical position and is either on the left or right side of the maternal pelvis

- L = left
- R = right

The **second letter** relates to the landmark of the fetal presenting part and can be:

- O = occiput = vertex
- S = sacrum = breech
- M = mentum = face
- A = acromion process = shoulder

The **third letter** represents whether the landmark is located in the front the back or the side of the maternal pelvis.

- A = anterior
- P = posterior
- T = transverse

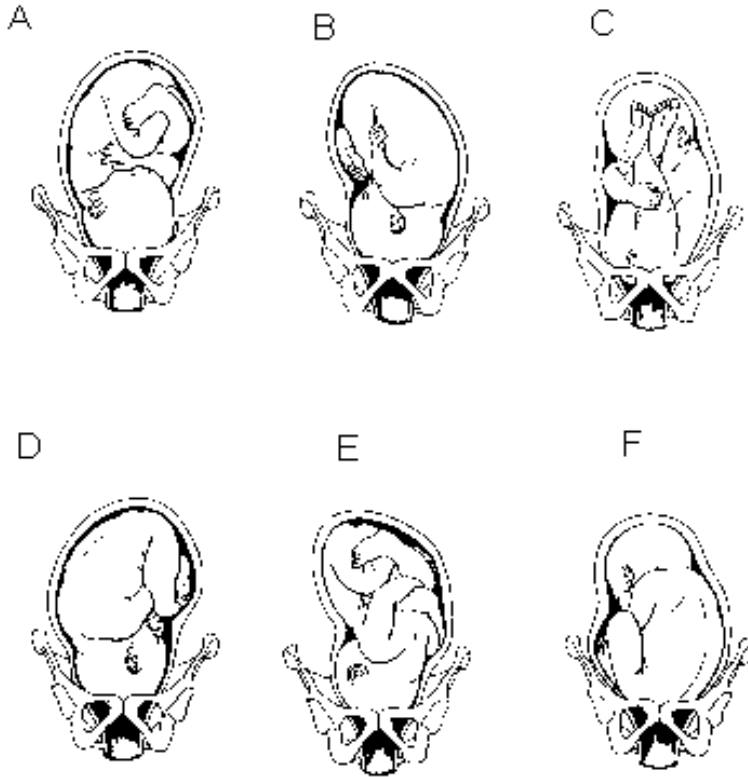
For example:

ROA

(Right, Occiput, Anterior)

Fetal Presentations

Examples of some of the different fetal presentations:



- A ROP (right-occiput-posterior)
- B LOT (left-occiput-transverse)
- C LSP (left-sacral-posterior)
- D ROA (right-occiput-anterior)
- E LMA (left-mentum-anterior)
- F LSA (left-sacral-anterior)

Assessing Fetal Heart Rate

A fetoscope or hand-held ultrasound device (Doppler) is necessary to assess the fetal heart rate (FHR). Attempting to auscultate the FHR by using a stethoscope can be very difficult. Locating the FHR for the first time can be difficult, even with the right equipment. Using Leopold's maneuvers to determine the lie and presentation of the fetus to help you determine the location of the FHR will make this easier. The best place to hear the FHR is at the fetal back; so if it is a cephalic presentation look for the FHR in the mother's abdominal lower quadrants. If it is a breech presentation you will find the FHR at the level of the mother's umbilicus or higher.

It is essential to differentiate between the mother's heart rate and that of the fetus; simply feeling the mother's pulse while assessing the fetal heart rate will accomplish this. Assess the FHR for at least 30 seconds and then multiply by two to give you the FHR per minute. The normal FHR should be between 120 and 160 beats per minute.

Accelerations in the fetal heart rate are usually transient and can be nonperiodic or periodic. Fetal movement often causes nonperiodic accelerations, much like exercise in an adult causes an increase in heart rate. When the fetus relaxes, the heart rate returns to normal.

Periodic accelerations are usually related to contractions. There are two theories as to why this happens. 1) The acceleration is in response to pressure of the uterus, which causes fetal movement, and thereby accelerations in heart rate. This type of acceleration is considered an indication of fetal well-being. 2) The second theory is that the contraction causes pressure on the umbilical vein, which results in a sympathetic response by the fetus to increase the oxygen supply thereby increasing the heart rate. This type of acceleration could be an early warning sign of low amniotic fluid or cord compression.

Spontaneous accelerations, which are not associated with contractions or fetal movement, are symmetric, nonperiodic, uniform accelerations that indicate an intact fetal CNS system.

Decelerations are periodic decreases in the FHR and are categorized by early, late and variable. Early decelerations are due to pressure on the fetal head as it progresses down the birth canal and will correspond with the contractions. Late decelerations represent poor blood flow to the placenta, which can be caused by maternal hypotension or excessive uterine activity. These can lead to fetal hypoxia and therefore, require prompt attention and intervention. Variance in onset and occurrence and are usually caused by umbilical cord occlusion. Should these variable decelerations become repetitive, it is usually indicative of a **nuchal cord** (chord around the neck), short cord or prolapsed cord.

Assessing Contractions

Assessing the intensity of the contraction, as well as the resting tone of the uterus can be difficult to do without experience. This is done by resting your fingers on the fundus of the mother's uterus. Between contractions, gently press one fingertip against the skin of the abdomen and see how far it indents and ask the mother to tell you exactly when the contraction begins and ends. Resist the temptation to keep you fingers in constant motion. During the contraction, gently push your finger against the underlying tissue to assess the firmness of the uterus. A mild contraction will feel like pressing your finger into your chin. A moderate contraction will feel like touching your nose with your finger and an intense contraction will feel like touching your forehead.

Uterine contractions must also be assessed for intensity, frequency and duration and can be done at the same time as assessing for the intensity of the contractions. **Intensity** is the strength of uterine contraction. When estimating intensity during

palpation of the contraction, determine whether it is mild, moderate or strong. Judging the amount of “dentability” of the abdomen during the contraction does this. **Frequency** is determined by noting the time from the beginning of one contraction to the beginning of the next contraction. **Duration** is noted from the time the uterus begins to tense (beginning of contraction) to when it relaxes again (end of contraction). A minimum of three consecutive contractions must be assessed to determine a contraction pattern.

Vaginal Examination

The purpose of a vaginal exam is to assess the condition of the vulva, vagina, perineum and the pelvic floor. It will also determine cervical dilation and effacement, station, and the position of the presenting part and the status of the membranes. As the assessments of these are affected by the contraction, this vaginal exam must be done between contractions. After the exam, the findings of the cervix should be recorded in centimeters of dilation, effacement and station (in that order).

Cervical Dilation and Effacement

Dilation is the opening of the cervical canal to allow for the passage of the fetus. This process starts with the internal os closed to complete dilation of 10 centimeters (cm). **Effacement** is the thinning of the cervix and a reduction in its length from 3 to 4 cm down to a few millimeters. This usually happens prior to dilation in the **primip** (first delivery) and simultaneously with dilation in the **multip** (multiple deliveries).

Station

Station is the level of presenting part in relation to the ischial spines of the mother’s pelvis. We determine the descent of the fetus by measuring how many centimeters above or below the ischial spines the presenting part is.

For example, the level of the ischial spines is zero (0). Any position above this point is a negative measurement in centimeters (e.g. -2). Any position below this point is a positive measurement in centimeters (e.g. +2).

Engagement occurs when the widest part of the fetal head has entered the inlet of the pelvis. This occurs when the tip of the presenting part has reached the level of the ischial spines or station zero.

Status of Membranes

Are the membranes ruptured? If they are not ruptured, they will tend to bulge into the cervix and be felt during the exam. Be careful not to rupture the membranes, paying close attention for running fluid (an indicator the membranes have ruptured) at all times during your exam. If the discharge is malodorous, an infection of the amniotic fluid and membranes may be present. If the discharge is yellow or greenish brown, then meconium is present and precautions should be taken during the delivery.

Objective 2: Key Terms

- GTPALM
- 4 M's
- Leopold's maneuvers
- accelerations
- decelerations
- dilation
- effacement
- intensity
- frequency
- duration
- station
- lie
- engagement
- primip
- multip
- fontnelle
- membranes
- nuchal cord

Objective 3

Demonstrate the Knowledge and Correct Procedure for an Internal Vaginal Exam

In the previous objectives we reviewed the three stages of labor and discussed the components of the intrapartal exam including the purpose of the vaginal exam. This objective will cover the indications, contraindications and the procedure for the internal vaginal exam, thus, enabling the Paramedic to make a better-informed decision regarding the transport of a patient in active labor.

Abdominal Palpation

Abdominal palpation (Leopold's maneuvers) should be performed first to verify lie, presentation, position and engagement of the fetus.

Vaginal Examination

Following abdominal palpation, a thorough internal vaginal exam should be performed to corroborate your findings and to establish baselines. This is also necessary in assessing the progress of labor and to determine the adequate timing of medication.

Indications

- Baseline for assessment.
- Prior to the administration of drugs.
- Reassessment of progress.
- Confirmation of full dilation.
- To check for cord prolapsed.
- Following rupture of membranes (ROM).

Contraindications

- Excessive bleeding.
- History of placenta previa.
- Prematurity.
- Premature rupture of membranes (PROM) (before >37 weeks gestation).

Procedure (Inform Patient and Obtain Consent)

1. Prepare the mother for the procedure:
 - Ask her to empty her bladder.
 - Help her to lie down so her legs are bent with her feet on the bed or stretcher. Place a pillow under her head and ask her to rest her hand across her abdomen.
 - Drape her legs to maintain her modesty. Make sure you can see her face at all times during the exam.
 - Ask the mother to spread her legs; do not try to force or even gently separate her legs.
 - Tell her in terms she can understand, what you will be doing and share your findings throughout the exam.
 - Warn her ahead of time if you are going to be exerting extra pressure or do something particularly uncomfortable.
 - If the mother gets upset or tense during the procedure, STOP!-do not remove your fingers, simply hold your hand still and find out what is bothering her. Wait until she is ready for you to proceed.
 - **Note:** If the mother has any signs of bleeding or has been bleeding during the last part of her pregnancy DO NOT PROCEED WITH THE EXAMINATION.

2. Prepare yourself for the procedure:
 - Wash your hands and put on sterile gloves.
 - You may be exposed to many body fluids, gowns and goggles should be worn in addition to gloves.
 - Lubricate the index and middle fingers of your examining hand. Then place the back of your examining hand on the mother's thigh prior to insertion to decrease her anxiety.
 - Ensure you have good lighting.

3. Separate the labia with your gloved fingers and inspect the vaginal opening.
 - Ulcerations, blisters or raised vesicles on the labia may be indicators of herpes or syphilis.
 - **Note:** If there are any active lesions near or at term in women who are in labor or who have ruptured membranes: CESAREAN DELIVERY WOULD BE A CONSIDERATION BY A PHYSICIAN.

4. Insert the first finger of the other gloved hand and then the second finger gently into the vagina but never during contractions.
 - Your hand should be turned sideways in this initial step.
 - Keep downward pressure as you insert the fingers to avoid pressing on the anterior wall or urethra.
 - The fourth and fifth fingers should be bent inward touching the palm of your hand and never touch the rectal area. The thumb should be kept straight up or stretched out.

- The thumb and forefinger on one hand separate the labia widely to expose the vaginal opening and prevent the examining fingers from touching the labia.
5. Move your fingers along the posterior wall of the vagina until you reach the cervix .
- *Note** - in a primip the cervix will be firm and well defined but in a multip it will be soft and sometimes undistinguishable.

Assessing Progress of Labor

6. Are the membranes ruptured?
- Do you feel them bulging into the internal os of the cervix?
7. What is the degree of cervical dilation?
- Measuring in centimeters; one finger represents approximately 1.5 – 2 cm dilation. Place one finger anterior and one finger posterior along the cervical ridge (this measurement is the distance between your two fingers).
8. What is the degree of cervical effacement?
- Palpate the thickness of the cervix in degree of thinness by percentages. (The uneffaced cervix is about 1 inch thick and would be described as 0% effaced; a cervix ½ inch thick would be described as 50% effaced).
9. What is the presenting part of the fetus?
- Palpate the presenting part. If you feel:
 - A hard skull with the sagittal suture and fontanelles it is a cephalic presentation.
 - The softer buttocks are a breech presentation.
 - Irregular knobby parts like the facial features is a face presentation.
10. What is the station? Has engagement occurred?
- Locate the lowest part of the presenting part and then sweep the fingers deeply to one side of the pelvis feeling for the ischial spines.
 - To determine station, estimate how far in centimeters the tip of the presenting part is above or below the ischial spine.
 - Engagement occurs when the widest part of the fetal head has entered the inlet of the pelvis. This occurs when the tip of the presenting part has reached the level of the ischial spines or station zero.
11. Gently remove your fingers as this can be uncomfortable to the mother and discard the gloves.
12. Tell the mother of your findings and relate them to her progress in labor.
- This information may be reassuring and supportive for the mother.

Summary

This module is designed to ensure competency in the intrapartal assessment of a woman in labor. Remember, history, abdominal palpation and an internal vaginal examination are all essential components when assessing the progression of labor. The results of your assessment will help to determine whether or not immediate transport is in the best interest of the mother and the fetus.

Exam

1. Marcia is happy and excited. Her contractions are every 8-10 minutes, last 15-30 seconds and are mild. What phase of labor is she most likely in?
 - a. Transitional phase.
 - b. She's not in labor.
 - c. The latent phase.
 - d. The active phase.

2. What are indications that a woman has entered the transitional phase of labor?
 - a. Her contractions are every 2-3 minutes, last 60-90 seconds and are strong in intensity.
 - b. She is shaking, vomits and is generally irritable.
 - c. Her contractions are every 4-6 minutes, last 30-40 seconds and are moderate in intensity.
 - d. Her membranes rupture.

3. Which of the following is NOT a sign that the placenta has separated?
 - a. The umbilical cord lengthens.
 - b. A gush of blood is noticed.
 - c. The uterus changes shape.
 - d. The mother states she has to push again.

4. Often oxytocin is administered after the delivery of the fetal head or shoulder. This is to:
 - a. Stop the contractions.
 - b. Speed up the delivery.
 - c. Aid in separation of the placenta.
 - d. Improve fetal circulation.

5. During the fourth stage of labor the mother requires close observation for:
 - a. HR, BP, urinary retention, colostrum production.
 - b. HR, BP, urinary retention, bleeding.
 - c. BP, urinary retention, colostrum production, bleeding.
 - d. HR, urinary retention, colostrum production, bleeding.

6. Which of the following best describes effacement?
 - a. The level of the fetal head in relation to the ischial spines.
 - b. The dilatation of the cervix.
 - c. The thinning the shortening of the cervix.
 - d. The strength of the contractions.

7. Which of the following best describes station?
 - a. The thinning and shortening of the cervix.
 - b. The strength of the contractions.
 - c. The level of the fetal head in relation to the ischial spines.
 - d. The dilatation of the cervix.

8. Which of the following would NOT be included in an assessment of a laboring woman?
 - a. Assessment of frequency, intensity and duration of contractions.
 - b. EDC.
 - c. Fundal height.
 - d. Allergies.
 - e. Presence of bowel sounds.

9. The best position for the mother when assessing of her abdomen is:
 - a. Supine, knees up, pillow under head.
 - b. Side, legs straight, no pillow.
 - c. Supine, legs straight, no pillow.
 - d. Side, knees up, pillow under head.

10. Leopold's fourth maneuver is used to:
 - a. Assess the descent of the fetus into the pelvis.
 - b. Determine what fetal part is lying above the inlet.
 - c. Determine the position of the fetal back.
 - d. Assess the fundus for shape, size and mobility.

11. Which of the following is **NOT** an indication for an internal vaginal exam:
 - a. Baseline for assessment.
 - b. Reassessment of progress.
 - c. Following premature rupture of membranes (PROM).
 - d. Prior to the administration of medications.

12. The first step when preparing for an internal vaginal exam is:
 - a. Have the mother empty her bladder.
 - b. Wash your hands.
 - c. Drape her legs to maintain her modesty.
 - d. Warn her ahead of time if you are exerting any extra pressure.

13. Which of the following is NOT a contraindication for an internal vaginal exam?
 - a. History of placenta previa.
 - b. Excessive bleeding.
 - c. Prematurity.
 - d. Prolapsed cord.

14. Which of the following is NOT an important aspect when assessing the progress of labor during an internal vaginal exam?
 - a. Are there any signs of bleeding?
 - b. Have the membranes ruptured?
 - c. What is the degree of cervical dilation?
 - d. What is the station?

15. The primary purpose for a Paramedic to perform an internal vaginal exam on a patient in active labor is:
 - a. To inform the hospital of the patient's dilation and effacement.
 - b. To see if the membranes have ruptured.
 - c. To make an informed decision regarding transport.
 - d. To complete the obstetrical history.

Glossary of Terms

Objective 1: Key Terms

Latent phase – During the first stage of labor when the cervix dilates from 0–4 cm.

Active phase – During the first stage of labor when the cervix dilates from 4–8 cm.

Transitional phase - When the cervix dilates from 8 – 10 cm during the first stage of labor.

Second stage of labor – When full dilation has been reached.

Third stage of labor – Begins with the delivery of the fetus and the ends with the delivery of the placenta.

Fourth stage of labor – Return of mom to prepregnant state.

Cotyledon – One of the rounded portions into which the placenta's uterine surface is divided.

Objective 2: Key Terms

GTPALM – Gravida, Term, Preterm, Abortion, Living, Multiple.

4 M's – Maturity, Multipara Meconium, Medications.

Leopold's maneuvers - are a systematic examination by palpation of the maternal abdomen.

Accelerations – periodic increase in the baseline fetal heart rate.

Decelerations – Periodic decreases in the fetal heart rate and are categorized by early, late and variable.

Dilation – The opening of the cervical canal to allow for the passage of the fetus.

Effacement – Thinning of the cervix and a reduction in its length from 3 to 4 cm down to a few millimeters.

Intensity - The strength of a uterine contraction.

Frequency - is determined by noting the time from the beginning of one contraction to the beginning of the next contraction.

Duration - is noted from the time the uterus begins to tense (beginning of contraction) to when it relaxes again (end of contraction).

Station – The level of presenting part in relation to the ischial spines of the mother's pelvis.

Lie – relationship of the long axis of the fetus and the long axis of the pregnant woman. The fetal lie might be longitudinal or transverse.

Engagement – When the widest part of the fetal head has entered the inlet of the pelvis.

Primip - A woman who has given birth only once.

Multip – A woman who has had two or more deliveries.

Fontanelle – A fibrous connective tissue membrane-filled space where bone formation is not yet complete, especially between the cranial bones of an infant's skull.

Membranes – Sheet of tissue that may be made of epithelial or connective tissue.

Nuchal cord – When the umbilical cord is wrapped around the fetus's neck.

Objective 3: Key Terms

(No Terms)

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- Olds, S.B., London, M.L., and Ladewig, P.A., (2000). *Maternal Newborn Nursing A Family and Community-Based Approach* (6th Edition). Upper Saddle river, New Jersey: Prentice-Hall Inc.
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Appendix A

Lab Skills Checklist

INTERNAL VAGINAL EXAMINATION

- ❑ Apply PPE precautions.
- ❑ Perform patient assessment.
- ❑ Obtain history and baseline vital signs.
- ❑ List indications, contraindications and complications for this procedure.
- ❑ Explain procedure to patient and obtains consent.
- ❑ Assemble equipment/ supplies and prepare patient for procedure.
- ❑ Prepare yourself for the procedure.
- ❑ Separate the labia with your gloved fingers and inspect the vaginal opening.
 - Ulcerations, blisters or raised vesicles on the labia may be indicators of herpes or syphilis.
 - **Note:** If there are any active lesions near or at term in women who are in labor or who have ruptured membranes: CESAREAN DELIVERY WOULD BE A CONSIDERATION BY A PHYSICIAN.
- ❑ Insert the first finger of the other gloved hand and then the second finger gently into the vagina.
 - Your hand should be turned sideways in this initial step.
 - Keep downward pressure as you insert the fingers to avoid pressing on the anterior wall or urethra.
 - The fourth and fifth fingers should be bent inward touching the palm of your hand and never touch the rectal area. The thumb should be kept straight up or stretched out.
 - The thumb and forefinger on one hand separate the labia widely to expose the vaginal opening and prevent the examining fingers from touching the labia.
- ❑ Move your fingers along the posterior wall of the vagina until you reach the cervix

(Continued...)

Assessing Progress of Labor

- ❑ Are the membranes ruptured?
 - Do you feel them bulging into the internal os of the cervix?

- ❑ What is the degree of cervical dilation?
 - Measuring in centimeters; one finger represents approximately 1.5 – 2 cm dilation.

- ❑ What is the degree of cervical effacement?
 - Palpate the thickness of the cervix in degree of thinness by percentages. (The uneffaced cervix is about 1 inch thick and would be described as 0% effaced; a cervix ½ inch thick would be described as 50% effaced).

- ❑ What is the presenting part of the fetus?
 - Palpate the presenting part. If you feel:
 - A hard skull with the sagittal suture and fontanelles it is a cephalic presentation.
 - The softer buttocks are a breech presentation.
 - Irregular knobby parts like the facial features is a face presentation.

- ❑ What is the station? Has engagement occurred?
 - Locate the lowest part of the presenting part and then sweep the fingers deeply to one side of the pelvis feeling for the ischial spines.
 - To determine station, estimate how far in centimeters the tip of the presenting part is above or below the ischial spine.
 - Engagement occurs when the widest part of the fetal head has entered the inlet of the pelvis. This occurs when the tip of the presenting part has reached the level of the ischial spines or station zero.

- ❑ Gently remove your fingers and discard the gloves.

- ❑ Tell the mother of your findings and relate them to her progress in labor.
 - This information may be reassuring and supportive for the mother.

- ❑ Document your findings

Comments:

Instructor Name & Initials: _____ *Date:* _____