

## “Maternal Nursing”.

In Section 1 of this course you will cover these topics:

- The Lpn/Lvn In Maternal-Child, Community-Based Nursing
- Legal And Ethical Issues In Maternal-Child Nursing
- Nursing Care Of The Family
- Reproductive Anatomy And Physiology
- Reproductive Issues
- Health Promotion During Pregnancy

### Topic : The Lpn/Lvn In Maternal-Child, Community-Based Nursing

#### Topic Objective:

After reading this topic the student will be able to:

- Describe the historical changes in maternity care and pediatrics.
- Describe the steps of the nursing process
- Describe the benefit of research for nursing practice.
- Describe community-based nursing practice.
- Describe LPN/LVN roles in maternal-child nursing.
- Describe decision making and prioritizing as they relate to nursing scope of practice.
- Describe the delegation process related to nursing scope of practice.

#### Definition/Overview:

**Licensed Practical Nurses:** (LPNs) are also known as licensed vocational nurses (LVNs) in California and Texas and as registered practical nurses (RPNs) in Ontario. They are called enrolled nurses (ENs) in Australia and state enrolled nurses (SENs) in the United Kingdom. LPNs generally have more training than certified nursing assistants, and less training than registered nurses.

**Nurse:** A nurse is responsible along with other health care professionals for the treatment, safety, and recovery of acutely or chronically ill or injured people, health maintenance of the healthy, and treatment of life-threatening emergencies in a wide range of health care settings. Nurses may also be involved in medical and nursing research and perform a wide range of

non-clinical functions necessary to the delivery of health care. Nurses also provide care at birth and death.

### **Key Points:**

#### **1. Historical changes in maternity care and pediatrics.**

- Maternal-child nursing is the care of women through pregnancy, childbirth, and postpartum and care of children from birth through the teenage years.
- From 1900 to the early 1940s childbirth shifted from care provided by untrained personnel to care provided by physicians, from the home to the hospital setting.
- In the 1960s through the 1980s use of spinal block anesthesia led to the use of forceps for delivery and respiratory distress in the neonate, causing cesarean deliveries to increase.
- In the 1990s formal prenatal classes were formed, birthing suites were built, and epidural anesthesia was used for pain relief.
- The Association of Womens Health, Obstetrics and Neonatal Nursing (AWHONN) was formed to improve the health of women and newborn infants after maternity nursing became a specialty.
- Today, couples are postponing childbirth to pursue a career, resulting in a greater risk of complications and fetal anomalies.
- Pediatrics is medical science related to the diagnosis and treatment of childhood illness.
- Laws have been passed to protect childrens rights, such as Aid to Families with Dependent Children, Child Health Assessment Program of Medicaid, and Women, Infants, Children (WIC) program. Aid is included in name of program and needs to be capitalized
- Nursing has evolved from providing for the sick persons activities of daily living to a knowledge-based discipline requiring specialized education and professional judgment.

#### **2. Steps of the nursing process.**

- The nursing process is a systematic approach that guides the care planning process.
- The steps of the nursing process are assessing, diagnosing, planning, implementing, and evaluating.

#### **3. The benefit of research for nursing practice.**

- Research gives direction to nursing practice through changes in current practice.

- Areas of research affecting nursing care are mortality, sudden infant death syndrome, and morbidity.

#### **4.Community-based nursing practice.**

- Community-based nursing is nursing care provided to individuals, families, and groups in any setting they are in.
- Effective community-based programs have the following characteristics: community participation, community assessment, measurable objectives, monitoring and evaluation processes, and interventions.
- Community-based nursing encompasses primary, secondary, and tertiary levels of care.
- Culturally proficient care includes awareness of the similarities and differences among cultures and a competence in caring for clients from other cultures.

#### **5.LPN/LVN roles in maternal-child nursing.**

- Roles of the LPN/LVN include collaborating with the interdisciplinary team, utilizing the nursing process, problem solving using inductive and deductive reasoning, using critical thinking to solve problems, and utilizing critical thinking care maps to organize information and select relevant interventions.
- A major role of LPN/LVNs is health promotion teaching.

#### **6.Decision making and prioritizing as they relate to nursing scope of practice.**

- LPNs/LVNs are held to a standard of reasonable and prudent care as designated by the Nurse Practice Act, the Board of Nursing Rules or Position Statements, and agency policies.
- The LPN/LVN needs to know what he/she is competent to perform to provide safe nursing care.
- The LPN/LVN needs to attend in-service programs to develop competence in new procedures or equipment.
- Decision making is based on knowledge and competency about performing nursing care.
- The LPN/LVN must establish priorities when planning and implementing nursing care to provide safe and effective care.

## 7. Delegation process related to nursing scope of practice.

- Delegation is transferring to a competent individual the authority or right to perform selected nursing tasks in a selected situation.
- The LPN/LVN retains accountability when delegating or assigning nursing care to unlicensed personnel. According to NCSBN, some states allow LPN/LVNs to delegate, other states allow LPN/LVNs to assign.
- The five rules of delegation are right task, right circumstances, right person, right direction/communication, and right supervision.
- The nursing task being delegated must be selected based on client assessment, the individual situation, and the skill of the individual being delegated to.
- Redlegation: A delegated task may not be redelegated to another person.

### Topic : Legal And Ethical Issues In Maternal-Child Nursing

#### Topic Objective:

After reading this topic the student will be able to:

- Describe federal initiatives to protect children.
- Describe parents rights as they relate to the care of children.
- Describe client rights as they relate to children.
- Name situations that the nurse must legally report to public agencies.
- Describe the difference between legal and ethical issues.
- Describe common legal and ethical issues that can affect the mother, child, and family.
- Describe the practical and vocational nurses role in legal/ethical issues.

#### Definition/Overview:

**Maternity:** Maternity is the social and legal acknowledgment of the parental relationship between a mother and her child.

**Parent:** A parent is a father or mother; one who sires or gives birth to and/or nurtures and raises an offspring. The different role of parents varies throughout the tree of life, and is especially complex in human culture.

**Mother:** A mother is the biological or social female parent of a child or offspring. The maternal bond describes the feelings the mother has for her (or another's) child. In the case of a mammal such as a human, the mother gestates her child (called first an embryo, then a fetus) in the uterus from conception or implantation until the fetus is sufficiently well-developed to be born. The mother then goes into labour and gives birth. Once the child is born, the mother produces milk to feed the child.

**Father:** A father is traditionally the male parent. Like mothers, fathers may be categorised according to their biological, social or legal relationship with the child. Historically, the biological relationship paternity has been determinative of fatherhood. However, proof of paternity has been intrinsically problematic and so social rules often determined who would be regarded as a father e.g. the husband of the mother.

### **Key Points:**

#### **1.Federal initiatives to protect children.**

- The US government established programs to improve childrens care, such as Medicaid's Early and Periodic Screening, Diagnosis and Treatment; Women, Infants, and Childrens program; National School Lunch Program.
- The U.S. Department of Health and Human Services released Healthy People 2000 and Healthy People 2010 to develop goals and objectives for health care.
- The nurse should understand general guiding principles of legal and ethical issues affecting children and obtain legal advice for complex issues.

#### **2.Parents rights as they relate to the care of children.**

- With few exceptions, parents have the authority to make decisions for their minor children regarding health care.
- The LPN/LVN must provide nursing care in an unbi-ased manner and report all concerns to the supervising RN.

#### **3.Client rights as they relate to children.**

- Some states have a mature minor act that allows children to make decisions about their treatment.

- Emancipated minors are responsible for their own health care decisions and expenses.
- The Clients Bill of Rights needs to be explained in age-appropriate language.
- Children need to be given as much control as possible by including them in decisions about their health care.
- It is the responsibility of the nurse to help the client and family understand how to participate in the clients care.
- Children have the same rights to privacy and confidentiality as adults do.

#### **4.Situations that the nurse must legally report to public agencies.**

- If a clients health problem puts the community at risk, or if child abuse or neglect is suspected, the nurse must notify the appropriate public health or law enforcement agency.
- The nurse who fails to report suspicions may be held liable by the courts.
- The nurse must record detailed information in the clients chart and complete report forms provided by investigating agencies.
- The federal Patient Self-Determination Act requires health care institutions to inform clients of their rights to treatment, including advance directives or living wills.
- The nurse needs to use effective therapeutic communication to help resolve conflict in regard to the rights to treatment or to withhold treatment.

#### **5.Difference between legal and ethical issues.**

- Ethical issues are situations that require intervention based on a system of values and ideas that are shaped from a sense of right or wrong.
- Legal issues are situations that require intervention based on state or federal laws.

#### **6.Common legal and ethical issues that can affect the mother, child, and family.**

- The nurse must keep an open mind about legal and ethical situations and provide nonjudgmental nursing care to the mother, child, and family.
- The nurse must be familiar with the state and federal laws governing situations such as assisted reproduction, nontraditional parents, pregnancy after rape, and barrier-breaking technologies.

## 7. Practical and vocational nurses role in legal/ethical issues.

- The LVN/LPNs nursing practice is guided by the nurses Code of Ethics and the Scope and Standards of Practice.
- When providing nursing care to a client who has legal or ethical issues, the priorities are therapeutic listening, critical thinking, and awareness of the law.
- Nursing interventions for clients with legal and ethical issues are based on the situation in which they occur.

### Topic : Nursing Care Of The Family

#### Topic Objective:

After reading this topic the student will be able to:

- Describe family assessment techniques such as genogram and ecomap.
- Describe the effect of cultural and religious beliefs on family functioning.
- Describe the characteristics of family systems.
- Describe the normal changes a family undergoes over time.
- Describe the characteristics of a family under stress.
- Identify the role of the Practical/Vocational Nurse in family assessment and care.
- Apply the nursing process to care of the family.

#### Definition/Overview:

**Patient Care:** Patient care is part of a nurse's role. Nurses use the nursing process to assess, plan, implement and evaluate patient care. Patient care is founded in critical thinking and caring in a holistic framework. Nursing care is increasingly framed in best practice, which is the application of evidence-based concepts to patient problems in a particular setting. Florence Nightingale is recognized as the first nurse researcher.

#### Key Points:

##### 1. Family assessment techniques such as genogram and ecomap.

- A family is defined as two or more people related by blood or marriage who reside together or two or more individuals who come together for the purpose of nurturing.

- A family assessment is an ongoing process of examining the relationships and functioning of members of a family.
- A genogram is a diagram of relationships of members of the family.
- An ecomap is a diagram of interactions of family members with the immediate environment.
- While keeping an open mind and a nonjudgmental attitude, the LPN/LVN assists the RN with family and environmental assessments to facilitate a move toward healthy relationships.

## **2.The effect of cultural and religious beliefs on family functioning.**

- Family-centered care is treatment to a designated client with recognition that the family system or unit may also need intervention.
- Culture is a style of behavior patterns, beliefs, and products of human works within a given community or population.
- Culture theory describes factors of culture that should be considered when working with families.
- Religion is a belief in a superhuman power recognized as a creator or governor of the universe.
- Ethnicity is identity based on common ancestry, race, religion, and culture.
- The LPN/LVN must not stereotype members of different cultures and must be able to provide care by identifying specific aspects of the families cultural and religious beliefs.

## **3.The characteristics of family systems.**

- There are many types of family units such as the nuclear family, extended family, single-parent family, blended family, foster family, interracial family, communal family, and cult family.
- Family systems theory states that the family system maintains a flexible boundary that can adjust or adapt to the needs of its members.
- The LPN/LVN must have a basic understanding of how a family functions and how to assess that functioning.

## **4.Normal changes a family undergoes over time.**

- Family development theory describes changes that occur through predictable stages the family undergoes over time.



- Family Development Theory has predictable stages the family undergoes over time.

### **5.The characteristics of a family under stress.**

- The LPN/LVN must be able to identify characteristics of families under stress and understand when to seek assistance and guidance from the supervising Registered Nurse.

### **6.The role of the Practical/Vocational Nurse in family assessment and care.**

- The LPN/LVNs role is to assist with data collection, report findings, and implement the written plan of care.

### **7.The nursing process to care of the family.**

- The LPN/LVN utilizes the steps of the nursing process when planning and implementing nursing care to clients and families

## **Topic : Reproductive Anatomy And Physiology**

### **Topic Objective:**

After reading this topic the student will be able to:

- Explain the developmental steps of spermatogenesis and oogenesis.
- Describe basic information about genes in relation to reproduction.
- List the essential and accessory organs of the male and female reproductive systems.
- Describe the general function of each organ of the male and female reproductive systems.
- Discuss the primary functions of the sex hormones.
- Discuss the phases of the menstrual cycle and correlate each with physical changes during a 28-day cycle.
- Explain the process of lactation.

### **Definition/Overview:**

**Reproductive System:** The reproductive system is a system of organs within an organism which work together for the purpose of reproduction. Many non-living substances such as

fluids, hormones, and pheromones are also important accessories to the reproductive system. Unlike most organ systems, the sexes of differentiated species often have significant differences. These differences allow for a combination of genetic material between two individuals, which allows for the possibility of greater genetic fitness of the offspring.

**Reproductive System Organs:** The major organs of the human reproductive system include the external genitalia (penis and vulva) as well as a number of internal organs including the gamete producing gonads (testicles and ovaries). Diseases of the human reproductive system are very common and widespread, particularly communicable sexually transmitted diseases.

**Reproductive System In Vertebrates:** Most other vertebrate animals have generally similar reproductive systems consisting of gonads, ducts, and openings. However, there is a great diversity of physical adaptations as well as reproductive strategies in every group of vertebrates.

**Physiology:** Physiology (from Greek: *physis*, nature, origin, and *logos*, "speech" lit. "to talk about the nature (of things)") is the study of the mechanical, physical, and biochemical functions of living organisms. Physiology has traditionally been divided between plant physiology and animal physiology but the principles of physiology are universal, no matter what particular organism is being studied. For example, what is learned about the physiology of yeast cells may also apply to human cells.

**Animal Physiology:** The field of animal physiology extends the tools and methods of human physiology to non-human animal species. Plant physiology also borrows techniques from both fields. Its scope of subjects is at least as diverse as the tree of life itself. Due to this diversity of subjects, research in animal physiology tends to concentrate on understanding how physiological traits changed throughout the evolutionary history of animals. Other major branches of scientific study that have grown out of physiology research include biochemistry, biophysics, paleobiology, biomechanics, and pharmacology.

### **Key Points:**

#### **1. Developmental steps of spermatogenesis and oogenesis.**

- Gametogenesis is the formation of sex cells in males and females.
- Spermatogenesis or sperm production begins at puberty and continues until death.

- Shortly before puberty, spermatogonia (sperm precursor cells) increase in number by the process of mitosis, resulting in two cells containing 46 chromosomes including the Y chromosome.
- Oogenesis is the development of the female gamete or ovum.
- Oogenesis occurs during fetal development from the process of meiosis, which results in an ovum with 23 chromosomes, one of which is an X chromosome.

## **2.Basic information about genes in relation to reproduction.**

- The unique combination of traits a person has results from that person's genetic makeup.
- Genetic coding is determined by a person's chromosomes, which are structures of DNA and protein.
- In humans, there are 22 sets of chromosomes (autosomes) and two sex chromosomes in each set.
- Genetic information is contained in DNA's pairs of chemical components, which are the proteins adenine, thymine, guanine, and cytosine.
- The human genome (complete set of DNA) contains 3 billion base pairs.

## **3.Essential and accessory organs of the male and female reproductive systems.**

- The essential organs of the male reproductive system are the pair of gonads or testes.
- The tunica vaginalis testis covers the front and sides of the testes and epididymis.
- The tunica albuginea covers the outside of the testes and forms the septum between the lobules.
- Seminiferous tubules are composed of long narrow coiled tubes in the lobules.
- The male and female accessory organs are the reproductive ducts, supportive glands, and external genitalia.
- The essential organs of the female reproductive system are the ovaries, which contain about 1 million ovarian follicles.
- The corpus luteum is a glandular structure that forms from a ruptured follicle.

## **4.General function of each organ of the male and female reproductive systems.**

- The testes are responsible for production of testosterone in the cells between the septum and seminiferous tubules and of sperm in the walls of the seminiferous tubules.

- The epididymis is where the sperm mature and develop the ability to move.
- Seminal vesicles produce a thick, yellowish fluid rich in fructose to provide energy for the sperm.
- The prostate gland produces a thin milky fluid that helps to activate sperm and to maintain their motility.
- The bulbourethral or Cowpers gland secretes a mucus-like fluid to neutralize the acid environment of the urethra and lubricate the end of the penis.
- The penis is the organ of copulation.
- The scrotum covers the testes, epididymis, and lower end of vas deferens.
- The ovaries contain ovarian follicles, which develop into Graafian follicles (mature follicles) and release a ripened ovum (egg).
- The fallopian tubes transport the ovum from the ovary toward the uterus and are the site of fertilization.
- The uterus is the organ where implantation takes place.
- The vagina connects the cervix to the vaginal opening. It is the site of deposition of sperm and the passageway for the delivery of the infant.
- The clitoris, located behind the junction of the labia majora and labia minora, is for sexual arousal and pleasure.
- The Bartholins gland secretes a thin, mucus-like substance that produces lubrication during sexual intercourse.
- The breasts contain milk-secreting glandular cells for nourishment of the newborn.

### **5.Primary functions of the sex hormones.**

- The anterior pituitary gland releases follicle-stimulating hormone when the male enters puberty. Follicle-stimulating hormone stimulates spermatogenesis to occur.
- Testosterone causes development of male accessory organs, greater muscle mass and strength, and masculine characteristics.
- The anterior pituitary gland releases follicle-stimulating hormone causing a follicle to enlarge and move closer to the surface of the ovary until the follicle ruptures and releases the ovum.
- The ovary produces estrogen and progesterone. Estrogen is responsible for the development and maintenance of the secondary sex characteristics and growth of the endometrium. Progesterone stimulates thickening and vascularization of the endometrium. Decrease in progesterone results in menses as the endometrium sloughs off.

- Pitocin released from the pituitary stimulates milk production and stimulates contraction of the uterus.
- Discuss the phases of the menstrual cycle and correlate each with physical changes during a 28-day cycle.
- Concepts for Lecture
- The menstrual cycle occurs with regularity from their onset (menarche) until the cycle ends (menopause).
- The average length of the menstrual cycle is 28 days.
- The menstrual cycle is divided into three phases: menses, proliferative phase, and secretory phase.
- The phases of sexual response are excitement, plateau, orgasm, and resolution.
- The nurse must be able to explain the phases of the menstrual cycle and correlate each with physical changes during the 28-day cycle.
- The nurse uses knowledge of the sexual response when teaching clients about their own and their partners sexual responses and when identifying sexual dysfunction.

#### **6.The process of lactation.**

- Lactogenesis or milk production begins in pregnancy due to sustained levels of estrogen and progesterone.
- Colostrum is a translucent, yellow fluid rich in protein, antibodies, and other substances to meet the needs of the newborn.
- Stimulation of the nipple causes the pituitary gland to secrete oxytocin.
- Pitocin causes milk-ejecting cells in the lactiferous sinus to contract, forcing colostrum and then milk from the nipple.
- A week after delivery, estrogen and progesterone decrease causing the mammary glands to change from producing colostrum to producing mature milk.
- The nurse uses knowledge of the process of lactation when helping the new mother with breastfeeding techniques.

**Topic : Reproductive Issues****Topic Objective:**

After reading this topic the student will be able to:

- Define reproductive issues
- Describe possible causes of reproductive issues.
- Discuss the medical and surgical interventions used to treat the client with reproductive issues.
- Identify nursing diagnosis and nursing interventions to assist the couple with reproductive issues.
- Provide appropriate care for the couple with reproductive issues.

**Definition/Overview:**

**Reproduction:** Reproduction is the biological process by which new individual organisms are produced. Reproduction is a fundamental feature of all known life; each individual organism exists as the result of reproduction. The known methods of reproduction are broadly grouped into two main types: sexual and asexual. Human reproduction belongs to sexual reproduction.

**Asexual Reproduction:** In asexual reproduction, an individual can reproduce without involvement with another individual of that species. The division of a bacterial cell into two daughter cells is an example of asexual reproduction. Asexual reproduction is not, however, limited to single-celled organisms. Most plants have the ability to reproduce asexually.

**Reproductive Issues:** Reproductive issues involve physical disorders that can have an impact on psychological health.

**Key Points:****1.Possible causes of reproductive issues.**

- Breast disorders may be detected by the woman during a monthly breast self-exam, during a physical examination by the primary care provider, or by mammography.
- Breast cancer is the second leading cause of cancer-related deaths among women.

- Most women experience minor discomforts just prior to and during menstruation related to hormone changes.
- Menopause is the cessation of menstruation that occurs between 35 and 58 years of age due to stopped functioning of ovaries.
- Fibroid tumors are common among women of all ages, probably due to estrogen secretion.
- Endometrial cancer is a common, slow-growing tumor that affects women between 50 and 70 years of age.
- Most cervical cancers result from infection by the human papillomavirus.
- Endometriosis occurs when endometrial tissue grows outside the uterine cavity and may lead to infertility.
- Cysts may become large and rupture, causing bleeding; thus a surgical emergency could occur.
- Ovarian cancer is the most lethal of female reproductive cancers.
- Relaxation or damage of pelvic muscles may result in prolapse or displacement of the pelvic organs.
- Concepts for Lecture continued
- With rape or incest, the psychological trauma is as great as or greater than the physical trauma.
- Testicular cancer, which is the most common cancer of men between 15 and 35 years of age, has a greater than 90% cure rate.
- Infections of the male reproductive system are often caused by sexually transmitted diseases and could result in infertility and sexual dysfunction.
- Erectile dysfunction is caused by any disorder that impairs circulation, interrupts nerve or hormone intervention, or by trauma that results in scar tissue.
- Benign prostatic hyperplasia is a growth of the prostate gland, which most commonly affects men over the age of 50.
- Prostate cancer is a leading type of cancer in men, which has a 5-year cure rate of 100% when diagnosed early and confined to the prostate. It is a testosterone-related condition.
- The most common sexually transmitted diseases are chlamydia, genital herpes, gonorrhea, genital warts, trichomoniasis, and syphilis.

## **2. Medical and surgical interventions used to treat the client with reproductive issues.**

- Physical disorders, including infection, hormonal imbalance, and structural defects, may be treated medically or, at times, surgically.
- Some disorders cannot be treated, and they result in infertility.

## **3. Nursing diagnosis and nursing interventions to assist the couple with reproductive issues.**

- Nursing diagnoses for reproductive issues include: Risk for Disturbed Body Image, Sexual Dysfunction, Deficient Knowledge.
- Couples wishing to postpone pregnancy need information about contraception. The nurse should encourage the client to speak with the health care provider for the appropriate type of contraception. Some methods may not be recommended with certain physical disorders.
- The nurse's responsibility in managing clients with infertility is to provide emotional support and teaching. Other methods may be used to become pregnant, but there is an increased risk of a multifetal pregnancy.
- Multifetal pregnancies, other than twins, occur most commonly from the use of fertility drugs or in vitro fertilization. The nurse needs to monitor for complications of a multifetal pregnancy, such as preterm labor, pregnancy-induced hypertension, gestational diabetes, or uterine rupture.
- Adolescent girls, women over 30, and couples who have a family history of genetic anomalies are at a higher risk for developing a fetus with chromosomal abnormalities than other couples. Chromosomal defects result in a variety of physical anomalies, including malformations and underdeveloped structures or body systems. The nurse needs to be knowledgeable about genetics to communicate information to the client.
- A combination of peer pressure, feelings of invincibility, elevation of sex hormones and sex drive may lead the adolescent to engage in premarital sexual intercourse, resulting in pregnancy and/or sexually transmitted diseases.
- The nurse must encourage early and continued prenatal care to help the pregnant adolescent have a good pregnancy outcome.
- Abortion is the termination of a pregnancy before the fetus is viable. This may be caused by a genetic abnormality or hormonal problem in embryo, infection, drug problem, systemic



disorder or abnormality in mother. After an abortion, the entire family needs support and grief counseling.

- Pregnancies after the age of 35 years need assistance with the lifestyle changes required by raising an infant.

#### **4.Couples with reproductive issues.**

- The couple experiencing psychological and emotional problems about reproductive issues may require long-term support and professional counseling.
- When discussing sexual relations with the couple, the nurse needs to express compassion, be understanding, and be open-minded and nonjudgmental.

- In Section 2 of this course you will cover these topics:

- Health Promotion During Labor And Delivery
- Health Promotion Of The Newborn
- Health Promotion In The Postpartum Period
- Life Span Growth And Development
- Illness Prevention, Health Promotion, And Nutrition In Children
- Adapting Procedures In The Care Of Children

#### **Topic : Health Promotion During Labor And Delivery**

##### **Topic Objective:**

- After reading this topic the student will be able to:
- Describe labour and delivery
- Discuss appropriate nursing actions for women who present for admission when in labor.
- Describe variables affecting labor and delivery.
- Identify various methods of pain relief used during labor.
- Differentiate the stages of labor.
- Discuss the mechanisms of labor.
- Provide appropriate care for a client during labor and delivery.
- Describe important aspects of nursing care of the neonate immediately after birth.

##### **Definition/Overview:**

**Health promotion:** as defined by the World Health Organization, is the process of enabling people to increase control over, and to improve, their health.. In the USA, health promotion is

much more narrowly conceived as "the science and art of helping people change their lifestyle to move toward a state of optimal health.

### **Key Points:**

#### **1. Health promotion and Labor**

- Theories have been developed to answer why labor begins: the overdistention theory and the hormonal theory.
- Labor progresses in an identifiable sequence of events.

#### **2. Appropriate nursing actions for women who present for admission when in labor.**

- Upon admission, the most important concerns are the stage of labor, the condition of the mother, and the condition of the fetus.

#### **3. Variables affecting labor and delivery.**

- Variables affecting labor include the 5Ps: passage, passenger, powers, position, and psyche.
- The passage consists of the size and shape of the maternal pelvis to accommodate the fetus. In cephalopelvic disproportion, the maternal pelvis is smaller than the fetal head, making vaginal delivery impossible.
- The station refers to the relationship between the fetus and the maternal ischial spines. The fetus is fully engaged when at 0 station.
- The passenger refers to the size of the fetus and the relationship of fetal parts to the maternal uterus and pelvis.
- The attitude is the relationship of fetal parts to one another. Flexion of the head and extremities makes for an easier labor.
- The fetal lie is the relationship of the fetal position to the maternal pelvis. Ideally, the fetus should be in a longitudinal lie in relation to the long axis of the maternal pelvis.
- The fetal presentation is the body part of the fetus that is closest to the cervix, such as in vertex presentation the occiput is closest to the cervix. Breech position is the buttocks closest to the cervix.
- Fetal position is the relationship of the presenting part to the four quadrants of the maternal pelvis, such as left or right, anterior or posterior.

- The largest part of the fetus is the head, which will accommodate to fit through the maternal pelvis.
- The primary power is the involuntary muscle contraction of the myometrium in response to oxytocin.
- The secondary power is Fergusons reflex, or the spontaneous urge to push the fetus through the birth canal.
- The position of the mother relieves muscle tension, supports areas of the body, and provides distraction. The side-lying position prevents supine hypotension syndrome.
- The psyche is the emotional status of the mother. The fear and anxiety of the labor process stimulates the sympathetic nervous system.

#### **4.Methods of pain relief used during labor.**

- Pain in labor may begin as a mild ache and progresses to a great intensity, which is relieved on delivery of the fetus.
- Nonpharmacologic and pharmacologic methods may be used for pain relief during labor.

#### **5.Stages of labor.**

- In order to determine whether labor is progressing in a normal pattern, the nurse must understand the stages of labor and the mechanism by which the infant maneuvers its way through the birth canal.
- To stimulate and shorten labor, an amniotomy or artificial rupture of fetal membranes may be performed.
- To prevent tearing of the perineal and anal tissue and to aid in delivery, an episiotomy or cutting of the perineal tissue may be performed.

#### **6.Mechanisms of labor.**

- The mechanisms of labor are the cardinal movements the fetus makes as the fetus moves through the pelvis to delivery.

#### **7.Nursing diagnoses and nursing interventions to assist in the labor process.**

- The LNP/LVN uses nursing diagnoses in the planning of nursing care for the laboring client.

- The goals of nursing interventions are to assist the client and support persons through the labor process.
- Nursing care during labor involves providing nonpharmacologic and pharmacologic comfort measures for the mother and monitoring the well-being of the infant.

### **8.Appropriate care for a client during labor and delivery.**

- The first priority in nursing care during labor and delivery is to assess maternal and fetal well-being with the progression of labor and delivery.
- The nurse must be constantly on the alert to see whether labor is progressing normally. If it is not, the care provider must be notified at once.
- To deliver culturally competent care, the nurse must be alert to verbal and nonverbal expressions of the client and family.
- Nursing care during and after delivery involves positioning the client, cleansing the perineum, encouraging the client to push, administering medications, and comforting the client.

### **9.Aspects of nursing care of the neonate immediately after birth.**

- The LPN/LVN needs to understand the care of the neonate that must be met immediately after delivery.
- The Apgar score is performed at 1 minute and 5 minutes after delivery to evaluate the neonates adaptation to extrauterine life.
- For safety issues, proper identification must be made in the delivery room before the mother and infant are separated. Each time the infant is brought to the mother, the identification bands must be compared. Upon discharge the mother signs the identifying document that she has received her infant.

### **Topic : Health Promotion Of The Newborn**

#### **Topic Objective:**

After reading this topic the student will be able to:

- Describe health promotion of New-Born
- Describe factors that put a woman at risk for complications of pregnancy.

- Describe diagnostic tests commonly used during pregnancy.
- Describe common complications of pregnancy, including symptoms, medical treatment, and nursing care.
- Describe common complications during labor and delivery, including the symptoms, medical interventions, and nursing care.
- Describe common complications during the postpartum period, including the symptoms, medical interventions, and nursing care.

### **Definition/Overview:**

**Health of Newborn:** The Newborns and Mothers Health Protection Act of 1996 is a piece of legislation relating to the coverage of maternity by health insurance plans in the United States of America. It was signed into law on September 26, 1996 and requires plans that offer maternity coverage to pay for at least a 48-hour hospital stay following childbirth (96-hour stay in the case of a caesarean section).

### **Key Points:**

#### **1. Health Promotion of Newborn**

- Complications can occur at any time during pregnancy, labor, delivery, and postpartum that can put the mother and fetus at high risk.
- Diagnostic studies can be performed to determine the status of the mother and/or the fetus.

#### **2. Factors that put a woman at risk for complications of pregnancy.**

- Factors associated with high-risk childbearing are grouped according to the threat to health and the outcome of the pregnancy.

#### **3. Diagnostic tests commonly used during pregnancy.**

- If signs of complications are detected, a variety of tests are used to assess fetal well-being.
- Prenatal care must include an assessment of maternal well-being. Routine prenatal maternal assessment includes vital signs, weight, and urine analysis for glucose and protein. If complications are detected, further diagnostic studies are indicated.

#### **4.Common complications of pregnancy, including symptoms, medical treatment, and nursing care.**

- Complications can be identified early through assessment and monitoring.
- Bleeding during pregnancy is always a potentially life-threatening condition for the mother and the fetus.
- Pregnancy puts additional workload on the clients damaged heart, resulting in congestive heart failure.
- Hypertensive disorders can lead to serious complications, resulting in death of the fetus or the mother.
- The client with diabetes prior to pregnancy has the same risks to the pregnancy as the client who develops gestational diabetes.
- The fetus has some protection from infection with intact membranes. Once the membranes rupture, the fetus is exposed to the infection.
- Most medication used to treat AIDS is safe to administer during pregnancy, decreasing the chance for the infant developing the disease.
- The nurse is responsible for early detection of complications, assisting with medical treatments, and providing emotional support.

#### **5.Common complications during labor and delivery, including the symptoms, medical interventions, and nursing care.**

- Most pregnancies end with a normal labor and delivery, but the possibility of anticipated and unanticipated complications exists.
- Preterm labor is contractions and cervical changes between the 20th and 37th weeks of gestation.
- Induction of labor may be necessary if the risk to the mother or infant of continuing the pregnancy is greater than the risk of delivery.
- Precipitous labor and/or delivery increase the risk of ruptured uterus, cervical and vaginal lacerations, hemorrhage, fetal distress, and fetal cerebral trauma.
- A prolapsed umbilical cord compresses the umbilical cord against the cervix and the pelvis, resulting in fetal hypoxia and maybe death.
- Dystocia is a difficult delivery that could occur due to fetal malposition or malpresentation, large fetus, ineffective uterine contractions, or small maternal pelvis.

- In the absence of cephalopelvic disproportion, the delivery may be assisted with a vacuum or forceps.
- A cesarean section may be a planned event or an emergency procedure to save the mother and/or fetus.
- A vaginal birth may be attempted after a cesarean section, depending on the reason for the cesarean section, condition of the scar tissue, and the size of the fetus.
- The nurse provides emotional support for the grieving family after fetal death, as well as monitors the progress of labor and prepares for delivery.
- The LPN/LVN must be prepared to assist the registered nurse with delegated tasks in providing care for the labor and delivery client.

#### **6.Common complications during the postpartum period, including the symptoms, medical interventions, and nursing care.**

- The postpartum period usually progresses without problems, but complications may continue from before delivery or develop after delivery.
- Preeclampsia usually begins during pregnancy but can become worse in the first 24 to 48 hours after delivery.
- Postpartum hemorrhage is most common within the first hour after delivery.
- Infections may be prevented through good hygiene practices, such as daily bathing and handwashing.
- Maternal death is rare during childbirth. It takes an emotional toll on the family, nurses, and medical staff.
- The nurse must be prepared to refer the mother and family for counseling and follow-up care as appropriate.

#### **Topic : Health Promotion In The Postpartum Period**

##### **Topic Objective:**

After reading this topic the student will be able to:

- Describe health promotion and postpartum Period
- Discuss physiologic adaptation of the newborn.
- Discuss important aspects of postpartum assessment and nursing care.
- Describe the complications commonly seen during the postpartum period.

- Discuss topics for client teaching about self-care in the postpartum period.
- Discuss client teaching about warning signs in infants in the postpartum period.

**Definition/Overview:**

**Postpartum Period:** Postnatal (Latin for 'after birth', from post meaning "after" and natalis meaning "of birth") is the period beginning immediately after the birth of a child and extending for about six weeks. The period is sometimes incorrectly called the postpartum period, which refers to the mother and, less commonly, puerperium.

**Time After Birth:** Biologically, it is the time after birth, a time in which the mother's body, including hormone levels and uterus size, return to prepregnancy conditions. Lochia is postpartum vaginal discharge, containing blood, mucus, and placental tissue.

During the first stages of this period, the newborn also starts his/her adaptation to extrauterine life, the most significant physiological transition until death.

**Key Points:****1. Physical changes in the mother during the postpartum period.**

- The postpartum or puerperium period begins immediately after birth of the baby and continues for 6 weeks or until the woman's body systems change again and return to a near prepregnant state.
- Involution is the return of the uterus to a nonpregnant state.
- Lochia is the discarding of blood, mucus, and tissue. It is classified by its appearance: lochia rubra, lochia serosa, and lochia alba.
- Exfoliation is healing of the placenta site by the shedding of tissue instead of scar formation, which would prevent uterine attachment of future pregnancies.
- Within 3 weeks, the tissue of the vagina, cervix, and perineum heals.
- The return of breast tissue to a prepregnant state depends on whether the mother is breastfeeding or not and for the length of time breastfeeding lasts.
- Ovulation and menstruation usually returns in 2 to 3 months, longer for the breastfeeding woman.
- Abdominal muscles take several months of exercise to regain muscle tone.



- The cartilage of the pelvis regains its firmness, but the diameter of the pelvis remains widened.
- Stool softeners, high-fiber diet, and adequate fluid are advised to relieve or prevent constipation. With a cesarean section, diet is advanced from liquids when bowel sounds return.
- After delivery, puerperal diuresis occurs. Swelling of the perineum and surrounding structures and decreased sensation of bladder filling may make urination difficult.
- Due to dehydration and physical exertion, the temperature may rise to 100.4F. After delivery, the woman may experience a postpartum chill due to the increased temperature. The temperature should return to normal within 24 hours after delivery.
- Blood values may be abnormal for first few days after delivery. Due to activation of blood coagulation factors, the woman is at risk for thrombosis.
- Hormone changes take place after delivery with a gradual return to normal levels.
- postpartum client.

### **2. Psychological changes in the mother during the postpartum period.**

- Adjustment to the role of mother takes place in the stages of taking-in and taking-hold.
- A client giving a baby up for adoption may experience feelings of grief and will require emotional care by the nurse.
- Postpartum blues is a mild depression beginning a few days after delivery and may last for 2 weeks. It may be associated with hormone changes and psychological adjustment to motherhood.
- Bonding is an emotional attachment between the mother and the infant.
- The nurse must identify negative feelings and help the family explore these feelings.
- The baby's father will demonstrate engrossment in interactions with the infant.

### **3. Important aspects of postpartum assessment and nursing care.**

- The nurse is responsible to advocate for the rights of the client and family based on their cultural beliefs.
- The LPN/LVN must know the normal findings to report abnormal readings to the charge nurse or primary care provider.
- The mnemonic BUBBLE helps the nurse to remember the important areas to examine during the postpartum assessment.

- The mnemonic REEDA is used to assess incisions, lacerations, episiotomies.

#### **4.The complications commonly seen during the postpartum period.**

- The first priority for nursing care in the postpartum period is to assess for complications to prevent serious life-threatening conditions.
- While assessing the client, the nurse has the opportunity to teach normal body changes and signs of complications to report to the physician.
- Using the BUBBLE assessment as a guide for postpartum assessment, the LPN/LVN can identify abnormalities to report to the charge nurse or primary care provider.
- The mnemonic REEDA is used as a guide for assessing incisions and/or lacerations.

#### **5.Topics for client teaching about self-care in the postpartum period.**

- The second priority for nursing care in the postpartum period is to teach the mother how to care for herself and her infant.
- Daily hygiene is important to prevent infections. Showers are preferred over tub baths to prevent cross-contamination.
- Sitz baths are used to relieve perineal swelling and discomfort.
- A balanced diet and ambulation promote healing and prevent complications.
- A support system and healthy patterns of living will help the mother recover without complications

#### **6.Teaching about warning signs in infants in the postpartum period.**

- The mother needs to understand warning signs of complications in infants to report them to the physician.

### **Topic : Life Span Growth And Development**

#### **Topic Objective:**

After reading this topic the student will be able to:

- Differentiate growth from development.
- List factors that influence growth and development.
- Describe Piagets stages of cognitive development.

- Describe Eriksons levels of psychosocial development.
- Describe Freuds stages of psychosexual development.
- Describe Kohlbergs levels of moral development.
- Describe the usual physical development for each age group.
- Describe characteristic milestones and deviations from the norm for each age group.

**Definition/Overview:**

**Life Span:**Life span refers to the typical length of time that any particular organism can be expected to live. It may also refer to:

Life expectancy, the average lifespan expected of a group

- Maximum life span, the maximum lifespan observed in a group
- Longevity, the average life span expected under ideal conditions
- Lifespan psychology, the study of development across the lifespan

**Child Development:** Child development refers to the biological and psychological changes that occur in human beings between birth and the end of adolescence, as the individual progresses from dependency to increasing autonomy. Because these developmental changes may be strongly influenced by genetic factors and events during prenatal life, genetics and prenatal development are usually included as part of the study of child development. Related terms include "developmental psychology", referring to development throughout the lifespan and "pediatrics", the branch of medicine relating to the care of children. Developmental change may occur as a result of genetically-controlled processes known as maturation, or as a result of environmental factors and learning, but most commonly involves an interaction between the two. Age-related development terms are: newborn (ages 0-1 month); infant (ages 1 month-1 year); toddler (ages 1-3 years); preschooler (ages 3-6 years); school-aged child (ages 6-13 years); adolescent (ages 13-18). However, organizations like Zero to Three and the World Association for Infant Mental Health use the term infant as a broad category, including children from birth to age 3, a logical decision considering that the Latin derivation of the word infant refers to those who have no speech, and speech is generally well-established by 3 years. The optimal development of children is considered vital to society and so it is important to understand the social, cognitive, emotional, and educational development of children. Increased research and interest in this field has resulted in new theories and

strategies, with specific regard to practice that promotes development within the school system. In addition there are also some theories that seek to describe a sequence of states that comprise child development.

### **Key Points:**

#### **1.Growth& Development.**

- Growth is the process of increasing in physical size.
- Growth and development progress from simple to complex.
- Development is the process of maturation, which includes the refinement of body systems, thought processes, and judgment.
- Development is cephalocaudal, proceeding from head to toe, and proximodistal, center to periphery and general to specific.

#### **2.Factors that influence growth and development.**

- Inherited characteristics from ancestors are determined at conception through combinations of genes.
- Due to the mobility of society today, nationality, race, and cultural customs are blending, which has resulted in changes in growth and developmental patterns.
- The order of birth or ordinal position influences development as parents are learning to parent with the oldest child, learning from parents and the older child influence the middle child, and the youngest child may be babied and slower in development.
- An only child may develop faster intellectually or may be spoiled and develop slower.
- Development and maturation occur at different rates between males and females, due to different expectations and cultural influences.
- Family structure influences development of the child through differences in roles of the mother and father, alternative family situations, poverty, lack of nutrition, and limited access to health care.
- A secure and stable environment allows the child to focus energy toward healthy growth and development. An unloved and insecure environment with limited nutrition and health care interferes with growth and development.

### 3. Piaget's stages of cognitive development.

- Children are born with an innate cognitive ability that must be developed.
- Jean Piaget proposed four levels of cognitive development: sensorimotor, preoperational, concrete operational, and formal operations.
- Sensorimotor, from birth to 2 years, interacts with the environment through reflex responses.
- Preoperational level, ages 2 to 7 years, progresses from using symbolism to symbols.
- Concrete operational, ages 7 to 11 years, is oriented to the present and in concrete terms, such as black or white or right or wrong.
- Formal operations, ages 11 to 16 years, is able to predict the future and to learn abstract comprehension.

### 4. Erikson's levels of psychosocial development.

- Erikson described eight stages of psychosocial development: infancy, early childhood, late childhood, school age, adolescence, young adult, middle years, and older adult.
- Infancy level, newborn to 1 year of age, is the development of trust versus mistrust. The ability to trust as an infant influences the ability to trust as an adult. Inability to trust develops mistrust in relationships.
- Early childhood, ages 1 to 3 years, is the level of autonomy versus shame and doubt. Feelings of trust in successes help the child develop confidence in learning by autonomy. Negative reinforcement develops shame and doubt in abilities.
- Late childhood, ages 3 to 6 years, is the level of initiative versus guilt. Through positive reinforcement, the child will take initiative to meet needs and not feel a failure.
- School age, ages 6 to 12 years, is the level of industry versus inferiority. The child is learning to apply what he learns, becoming industrious. If the child is unsuccessful or is not praised for what he accomplishes, the child becomes inferior.
- Adolescence, ages 12 to 20 years, is the level of identity versus role confusion, which is becoming independent, separating from parents, and making decisions about self. Inferiority and guilt lead to role confusion and an inability to develop relationships and independence.
- Young adult, ages 20 to 40 years, is the level of intimacy versus isolation. It is a time of developing relationships and making decisions about life's work. Difficulty finding companionship leads to isolation.

- Middle years, ages 40 to 65 years, is the level of generativity versus self-absorption and stagnation. It is a time of sharing life experiences and becoming a contribution to society. Inability to complete this level leads to not seeing any value or meaning in life.
- Older adult, ages 65 and older, is the level of ego integrity versus despair. It is a time of looking at accomplishments of life and having a good life. A life of inability to accomplish other levels leads to bitterness and isolation.

### **5.Freuds stages of psychosexual development.**

- Freud believed that early childhood experiences led to unconscious motivation for actions later in life and that sexual instincts were important for personality development.
- The personality has three parts: id, which is the drive to seek pleasure; ego, which is acceptable methods to meet pleasure; and the superego, which is the conscience.
- Freud identified five stages of psychosexual development.
- Freud theorized that behavior is motivated and is often unconscious, and defense mechanisms are used to protect the ego from threatening or painful life experiences.

### **6.Kohlbergs levels of moral development.**

- Kohlberg established three levels of moral development, which range from a desire to please others and to avoid punishment, to learning rules and following ethical standards.

### **7.Uual physical development for each age group.**

- Infancy is a time of rapid growth and developmental changes. Weight triples and height grows 12 inches in the first year. Body systems mature and teeth erupt at about 6 months of age.
- Cognitive development in the infant matures from reflexes to purposeful interaction with the environment, noises to words in speech development, and wakefulness increases.
- In the toddler years, physical growth slows but many developmental changes take place with developing independence and learning to walk, run, and toilet train.
- The toddlers cognitive development shows growth in language abilities and socialization but experiences separation anxiety when separated from parents and throws temper tantrums to communicate needs.

- The preschool child steadily grows physically and becomes more independent and self-disciplined.
- Cognitive development in the preschooler shows gender identification, understanding relationships, and continued development of language skills.
- The school-age growth continues to change to a more adult-like appearance, and most of the permanent teeth have erupted.
- In cognitive development, the school-age child develops confidence in self, learns to cooperate with others, begins to question family roles and values, and joins clubs and teams.
- Adolescence is a time for maturing from childhood to adulthood. Females mature faster than males, and hormones guide physical changes.
- Cognitive development in adolescents progresses from concrete to abstract comprehension. Adolescents may be very self-centered or immature, and peers influence behavior.
- Young adults are at the peak of physical efficiency. As aging continues into middle age, the body gradually decreases in its abilities.
- Cognitive skills are used to develop a productive life with career, relationships, becoming parents and grandparents, planning for retirement and becoming the sandwich generation.
- In the older adult there is a slowing or decreasing in the function of all body systems.
- Cognitive deficits are noted in the older adult, such as loss of memory.

#### **8.Characteristic milestones and deviations from the norm for each age group.**

- Health assessment and promotion of activities to assist the client meet developmental milestones.
- Deviations from meeting milestones at the appropriate age are warning signs for further assessment and interventions.

#### **9.Provide some guidelines for age-appropriate teaching to each age group.**

- Establish a therapeutic relationship with client.
- Communicate appropriately for age, stage of development, and cognitive level.
- Be sensitive to developmental issues and allow client to express feelings.
- Refer to appropriate resources or support groups.

**Topic : Illness Prevention, Health Promotion, And Nutrition In Children****Topic Objective:**

After reading this topic the student will be able to:

- Describe techniques for client/family teaching.
- Describe illness prevention activities.
- Describe health promotion activities for children in each age group.
- Discuss important aspects of nutrition for each age group.

**Definition/Overview:**

**Illness:**(sometimes referred to as ill-health or ail) can be defined as a state of poor health.

**Health:**The mode of being healthy includes, as defined by the World Health Organization, " a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 1946). When these conditions are not fulfilled, then one can be considered to have an illness or be ill. Medication and the science of pharmacology is used to cure or reduce symptoms of an illness or medical conditions. Developmental disability is a term used to describe severe, life-long disabilities attributable to mental and/or physical impairments.

**Pain:**Conditions of the body or mind that cause pain, dysfunction, or distress to the person afflicted or those in contact with the person can be deemed an illness. Sometimes the term is used broadly to include injuries, disabilities, syndromes, infections, symptoms, deviant behaviors, and atypical variations of structure and function, while in other contexts these may be considered distinguishable categories. A pathogen or infectious agent is a biological agent that causes disease or illness to its host. A passenger virus is a virus that simply hitchhikes in the body of a person or infects the body without causing symptoms, illness or disease. Foodborne illness or food poisoning is any illness resulting from the consumption of food contaminated with pathogenic bacteria, toxins, viruses, prions or parasite



**Key Points:****1. Techniques for client/family teaching.**

- Every interaction between the nurse and client and/or family needs to be one of assessment and promoting health teaching.
- The nurse determines specific areas of instruction needed and determines the effectiveness of prior teaching to develop a teaching plan.
- The nurse plans the type of instruction and where instruction is to take place.
- Instruction needs to be accurate, complete, up-to-date, individualized, and age-specific.
- At the end of the instruction, the nurse must validate understanding of the information taught.

**2. Illness prevention activities.**

- Illness prevention can be divided into three categories: primary, secondary, and tertiary prevention. Primary helps to avoid illness. Secondary allows for early detection and treatment. Tertiary involves treating illnesses to prevent complications.
- Activities, such as well-child visits or administering immunizations, can be performed to prevent illnesses.
- The nurse promotes healthy individuals, families, and communities by role-modeling healthy behaviors, providing encouragement, reinforcing the need for change, and recognizing efforts of change.

**3. Health promotion activities for children in each age group.**

- Health promotion activities promote lifestyle changes that result in a healthier state for the individual.
- Injuries are the leading cause of death in children ages 1 to 19. Health promotion includes promoting environmental safety.
- To face challenges in a healthy manner, the client needs a high level of self-esteem.
- The nurse can help parents to explore methods of discipline and effective consequences for bad behavior.
- Through play, the child learns skills necessary to function throughout their life span.

#### 4.Important aspects of nutrition for each age group.

- 15.3% of American children are considered clinically obese. A type of malnutrition in the United States is obesity.
- A priority in nursing is to monitor the clients weight, height, nutritional status, nutritional intake, and environmental factors affecting diet.
- Nurse should teach parents and children adequate nutrition and the risks of inadequate nutrition.
- Good oral health begins in infancy. Fluoride supplements may be needed if fluoride levels in water are less than 0.6 ppm. Dental visits should begin with toddlers.
  - In Section 3 of this course you will cover these topics:
    - Care Of The Hospitalized Or Chronically Ill Child
    - Care Of The Child With Fluid, Electrolyte, Or Acid-Base Disorders
    - Care Of The Child With Neurologic And Sensory Disorders
    - Care Of The Child With Musculoskeletal Disorders
    - Care Of The Child With Respiratory Disorders

#### Topic : Care Of The Hospitalized Or Chronically Ill Child

#### Topic Objective:

After reading this topic the student will be able to:

- Describe hospital care for children
- Describe how to prepare children for hospitalization.
- Describe how to prepare parents for their child's hospitalization.
- Describe the preoperative and postoperative care of children.
- Describe how to prepare parents and children for discharge.

#### Definition/Overview:

**Hospital Care:** Hospital medicine in the United States is the discipline concerned with the general medical care of hospitalized patients. Doctors, Physician Assistants or Nurse Practitioners whose primary professional focus is hospital medicine are called hospitalists; this type of medical practice has extended beyond the US into Canada. The term "hospitalist" was first used by Dr. Robert Wachter in a 1996 New England Journal of Medicine article. Hospitalist activities may include patient care, teaching, research, and leadership related to hospital care. Hospital medicine, like emergency medicine, is a specialty organized around a

site of care (the hospital), rather than an organ (like cardiology), a disease (like oncology), or a patient's age (like pediatrics). However, unlike medical specialists in the emergency department or critical care units, most hospitalists help manage patients throughout the continuum of hospital care, often seeing patients in the ER, admitting them to inpatient wards, following them as necessary into the critical care unit, and organizing post-acute care.

### **Key Points:**

#### **1. Healthcare and Hospitalization**

- Illness is a state of disease or sickness that may be physical or psychological.
- Illness is characterized as acute (rapid onset, severe symptoms, short course), chronic (long-lasting, slowly progressing), or terminal (final, fatal).
- Concepts for Lecture continued
- Therapeutic play is play that allows the individual to deal with fears associated with the health care experience.
- A child life specialist is a trained professional who plans therapeutic activities for the hospitalized child.
- Separation anxiety is apprehension due to parents or personal items not being present in the child's environment. The three stages of separation anxiety are: protest, despair, and detachment.
- Client-controlled analgesia (PCA) is a device, attached to an intravenous line, which allows the client to release pain medication as needed.
- Conscious sedation is the administration of intravenous medication to produce an impaired level of consciousness to safely perform therapeutic or diagnostic procedures outside the operating room.
- Deep sedation is a controlled state of depressed consciousness or unconsciousness in which the child is unable to maintain protective reflexes. It is used during surgical procedures and is administered and maintained by an anesthesiologist and nurse anesthetist.
- A chronically ill child may have a hereditary condition, which is a genetic inheritance from a parent or both parents, or may have a congenital condition, which is a condition present from birth that results in a chronic disorder.
- An individualized education plan is an interdisciplinary plan that pinpoints the special needs of a client with a chronic condition and establishes a plan for meeting the client's needs.

## **2.Preparing children for hospitalization.**

- The age of the child, reason for hospitalization, length of hospitalization and past experiences determine the method and amount of preparation needed for preparing the child for hospitalization.
- The needs of the individual child and family must be assessed to develop an interdisciplinary plan of care.
- The child's limited understanding of what is happening to the child produces anxiety over hospitalization, diagnostic, and therapeutic procedures.
- It is important for the nurse to help relieve stress by providing age-specific preparation for hospitalization and every procedure the child will experience.

## **3.Preparing parents for their child's hospitalization.**

- The nurse must determine the amount and quality of preparation the child and family have received when the child is hospitalized.
- The nurse needs to establish a positive relationship with the child and family, answer questions, and reduce fear and anxiety.

## **4.Preoperative and postoperative care of children.**

- The LPN/LVN provides input into the individualized care plan for the preoperative and postoperative care of the child.
- The physical and psychological preparation of the child before and after surgery is similar to the care of the adult.
- The LPN/LVN assists the registered nurse in the implementation and evaluation of preoperative and postoperative nursing care of the child.

## **5.Preparing parents and children for discharge.**

- The LPN/LVN assists the registered nurse to prepare the parents and children for discharge.

## **Topic : Care Of The Child With Fluid, Electrolyte, Or Acid-Base Disorders**

### **Topic Objective:**

After reading this topic the student will be able to:

- Discuss fluid and electrolyte balance in children.

- Discuss acid-base balance in children.
- Identify alterations in fluid and electrolyte and acid-base balance in children.
- Describe appropriate assessment and interventions related to fluid and electrolyte and acid-base imbalances.

**Definition/Overview:**

**Fluid:** A fluid is defined as a substance that continually deforms (flows) under an applied shear stress regardless of how small the applied stress. All liquids and all gases are fluids. Fluids are a subset of the phases of matter and include liquids, gases, plasmas and, to some extent, plastic solids. The term "fluid" is often used as being synonymous with "liquid". This can be erroneous and sometimes clearly inappropriate - such as when referring to a liquid which does not or should not involve the gaseous state. "Brake fluid" is hydraulic oil which will not perform its required function if gas is present. The medical profession relies on the term "fluids" in dietary references ("take plenty of fluids") where the presence of gases is irrelevant or even possibly dangerous.

**Liquids:** Liquids form a free surface (that is, a surface not created by the container) while gases do not. The distinction between solids and fluid is not entirely obvious. The distinction is made by evaluating the viscosity of the substance. Silly Putty can be considered to behave like a solid or a fluid, depending on the time period over which it is observed. However Silly Putty is correctly termed a viscoelastic fluid.

**Electrolyte:** An electrolyte is any substance containing free ions that behaves as an electrically conductive medium. Because they generally consist of ions in solution, electrolytes are also known as ionic solutions, but molten electrolytes and solid electrolytes are also possible. They are sometimes referred to in abbreviated jargon as lytes.

**Key Points:****1. Fluid and electrolyte balance in children.**

- Children have a high percentage of water; therefore, fluid and electrolyte imbalances are much more dangerous in pediatric clients than in adults.
- Homeostasis is achieved by balance of fluid and electrolytes, as well as fluid intake, hormonal regulation, and fluid output.

- Body fluids are in two distinct compartments: intracellular and extracellular. The extracellular compartment includes plasma and interstitial fluid.
- Body fluids contain solutes. A solute is a substance dissolved in a fluid or a solvent. A solution is formed when one or more solutes are dissolved in a solvent.
- Fluids and electrolytes move across cell membranes by one of four methods: osmosis, diffusion, filtration, and active transport.
- Electrolytes are solutes within the body fluid. Cations are positively charged electrolytes, such as potassium (K<sup>+</sup>), sodium (Na<sup>+</sup>), and calcium (Ca<sup>+</sup>). Anions are negatively charged electrolytes, such as chloride (Cl<sup>-</sup>), bicarbonate (HCO<sub>3</sub><sup>-</sup>), and sulfate (SO<sub>4</sub><sup>-2</sup>).

## **2. Acid-base balance in children.**

- Homeostasis applies to the balance of hydrogen ion concentration within the body.
- Acidosis develops when there is an increase of hydrogen ion concentration.
- Alkalosis develops when there is a decrease of hydrogen ion concentration.
- Three body mechanisms that compensate for abnormal pH levels leading to acidosis or alkalosis are the buffer system, the respiratory system, and the renal system.
- Arterial blood gas (ABG) analysis determines functioning of the respiratory system to detect acid-base imbalances. The ABG analyzes pH, PaCO<sub>2</sub>, and HCO<sub>3</sub><sup>-</sup> values.
- The nurse must be able to analyze ABG results accurately by reviewing pH, CO<sub>2</sub>, and HCO<sub>3</sub><sup>-</sup> values.

## **3. Alterations in fluid and electrolyte and acid-base balance in children.**

- During illnesses, body fluids and electrolytes may become imbalanced through losses or gains of fluid.
- Dehydration can be classified by three types: isotonic, hypotonic, and hypertonic.
- When the balance of hydrogen ion concentration within the body becomes disturbed, acidosis or alkalosis conditions develop.

## **4. Appropriate assessment and interventions related to fluid and electrolyte and acid-base imbalances.**

- Careful measuring of intake and output, accurate measurement of the child's weight, and monitoring lab values are essential in identifying fluid and electrolyte imbalances.
- The treatment of dehydration requires rehydration. This may be accomplished with oral or intravenous fluids based on the degree of dehydration.

- Fluid restriction is a necessary treatment for fluid volume excess. The nurse must take care to explain the fluid restriction in terms the child can understand and to involve parents and child in the plan.
- Expected outcomes for a child with fluid and electrolyte imbalances are the return of adequate hydration, weight gain or loss, and intact skin.
- Children experiencing an acid-base imbalance are at risk for ventilation and oxygenation difficulties, neurologic difficulties, and cardiac difficulties.

### **Topic : Care Of The Child With Neurologic And Sensory Disorders**

#### **Topic Objective:**

After reading this topic the student will be able to:

- Discuss the anatomy and physiology of the pediatric neurological system.
- Describe neurological disorders to include seizures, cerebral palsy, meningitis, spina bifida, hydrocephalus, and Guillain-Barr syndrome.
- Explain appropriate nursing interventions for children with neurological disorders.
- Describe disorders of the eye and ear in children.
- Explain appropriate nursing interventions for children with disorders of the eye and ear.

#### **Definition/Overview:**

**Sensory Integration Dysfunction:** (SID, also called sensory processing disorder) is a neurological disorder causing difficulties with processing information from the five classic senses (vision, auditory, touch, olfaction, and taste), the sense of movement (vestibular system), and/or the positional sense (proprioception). For those with SID, sensory information is sensed normally, but perceived abnormally. This is not the same as blindness or deafness, because, unlike those disorders, sensory information is sensed by people with SID, but the information tends to be analyzed by the brain in an unusual way that may cause distress or confusion.

**SID as Disorder:** SID can be a disorder on its own, but it can also be a characteristic of other neurological conditions, including autism spectrum disorders, attention deficit disorder,

dyslexia, Developmental Dyspraxia, Tourette's Syndrome, multiple sclerosis, and speech delays, among many others.

**SID Research:** Unlike many neurological problems that require validation by a licensed psychiatrist or physician, this condition is most often diagnosed by an occupational therapist. It is increasingly being diagnosed by developmental pediatricians, pediatric neurologists, and child psychologists. While it has not yet been included in the American Psychiatric Association's Diagnostic and Statistical Manual as a discrete diagnosis, Regulatory-Sensory Processing Disorder is an accepted diagnosis in Stanley Greenspan's Diagnostic Manual for Infancy and Early Childhood and the Zero to Threes Diagnostic Classification.

**Neurology:** Neurology is a medical specialty dealing with disorders of the nervous system. Specifically, it deals with the diagnosis and treatment of all categories of disease involving the central, peripheral, and autonomic nervous systems, including their coverings, blood vessels, and all effectortissue, such as muscle. Physicians who specialize in neurology are called neurologists, and are trained to investigate, or diagnose and treat, neurological disorders. Pediatric neurologists treat neurological disease in children. Neurologists may also be involved in clinical research, clinical trials, as well as basic research and translational research. In the United Kingdom, contributions to the field of neurology stem from various professions; saliently, several biomedical research scientists are choosing to specialize in the technical/laboratory aspects of one of neurology's subdisciplines.

### **Key Points:**

#### **1. Anatomy and physiology of the pediatric neurological system.**

- The nurse needs to understand the anatomy and physiology of the child's nervous system to have an understanding of the disorders of the neurological system.
- The nurse needs to recognize early and late signs of increased intracranial pressure to initiate appropriate interventions.
- The nurse needs to understand the anatomy and physiology of the sensory system to have an understanding of the disorders of the sensory system.
- The eye is composed of internal and external structures that relay light impulses to the occipital area of the brain.
- The ear is composed of three sections: the external ear, middle ear, and the inner ear.



## **2. Neurological disorders to include seizures, cerebral palsy, meningitis, spina bifida, hydrocephalus, and Guillain-Barr syndrome.**

- Congenital neurologic disorders are disorders of the nervous system that are present at birth.
- Nervous system disorders may be caused by a pathologic condition or may be a genetic factor.
- Nervous system infections may be caused by a bacteria or virus. Bacterial infections are more serious, causing neurological damage and death.

## **3. Appropriate nursing interventions for children with neurological disorders.**

- Neurologic assessments include the Glasgow Coma Scale, which is used to evaluate a child's level of consciousness and verbal and motor response to stimuli.
- Pain in the child can be difficult to assess. Management of pain in children includes both the use of pharmacologic and nonpharmacologic methods of pain relief.
- Spina bifida defects can occur anywhere along the spinal column and can cause a variety of pathologies such as hydrocephalus and seizures.
- During a seizure, the first priority is to establish a safe environment for the child.
- Amyotrophic lateral sclerosis may result in death in 2 to 5 years from respiratory failure.
- Cerebral palsy damage can occur during the prenatal, perinatal, and postnatal periods and up to 23 years of age. It is more common in very-low-birth weight and small-for-gestational age infants.
- Fibromyalgia is a disorder characterized by widespread musculoskeletal pain and fatigue.
- The majority of meningitis cases in children occur before 5 years of age. Encephalitis is usually caused by a virus but may occur after vaccination with the measles, mumps, and rubella vaccine.
- Parents should be taught to avoid using salicylates for viral infections due to the possibility of developing Reyes syndrome.
- Guillain-Barr syndrome is most commonly seen in children between 4 and 9 years of age.

## **4. Disorders of the eye and ear in children.**

- Eye infections are caused by bacteria, viruses, allergies, or trauma. They may be highly contagious. Prompt treatment prevents damage to the eye.
- Structures of the eye are not well protected. Penetrating or nonpenetrating eye injuries may occur.
- Visual impairment can cause learning difficulties or decreased vision.

- Hearing impairment may be congenital or acquired resulting in slight hearing loss to total deafness.
- Ear infections have increased incidence with upper respiratory infections, cleft palate, immunodeficiencies, bottle feeding, pacifier use, and exposure to cigarette smoking.

### **5.Appropriate nursing interventions for children with disorders of the eye and ear.**

- When assessing the eye, use terminology the child will understand and ask parents if the child has any difficulty seeing.
- To prevent transferring eye infections to others, frequent handwashing needs to be practiced.
- Penetrating and nonpenetrating injuries need prompt treatment.
- The Snellen letter chart, picture chart, and E chart are available to screen for visual acuity.
- Dyslexia is a common learning disability. This condition makes speaking, writing, memorizing, working math problems, reading, and spelling difficult due to seeing mirror images of letters, numbers, and symbols.
- Cataracts may be acquired through infections, trauma, or congenital as an inherited autosomal dominant trait.
- Glaucoma has the potential to cause retinal damage, compression of the optic disc tissue, resulting in decreased visual fields or blindness.
- When assessing a child's hearing, the difference in the anatomical shape of the eustachian tube of young children is important to understand. The shape increases risk of otitis media infections.
- Because care of the child with otitis media is in the home, parents need to be taught proper medication administration and prevention methods.
- Delayed speech and language development may be the result of poor hearing acuity. Early detection of hearing loss identifies children in need of early interventions.

### **Topic : Care Of The Child With Musculoskeletal Disorders**

#### **Topic Objective:**

After reading this topic the student will be able to:

- Discuss the anatomy and physiology of the pediatric musculoskeletal system.
- Describe musculoskeletal disorders to include developmental hip dysplasia, scoliosis, muscular dystrophy, osteomyelitis, osteosarcoma, and musculoskeletal injuries.

- Discuss clinical manifestations, diagnostic procedures, and medical management related to musculoskeletal disorders.
- Explain appropriate nursing interventions for children with musculoskeletal disorders.

**Definition/Overview:**

**Musculoskeletal disorders:** (MSDs) can affect the body's muscles, joints, tendons, ligaments and nerves. Most-work related MSDs develop over time and are caused either by the work itself or by the employees' working environment. They can also result from fractures sustained in an accident. Typically, MSDs affect the back, neck, shoulders and upper limbs; less often they affect the lower limbs.

**Health Problems:** Health problems range from discomfort, minor aches and pains, to more serious medical conditions requiring time off work and even medical treatment. In more chronic cases, treatment and recovery are often unsatisfactory - the result could be permanent disability and loss of employment.

**Prevention:** Many problems can be prevented or greatly reduced by complying with existing safety and health law and following guidance on good practice. Unfortunately, MSDs are an increasing problem. For the employee, they cause personal suffering and loss of income; for the employer, they reduce business efficiency; and for government, they increase social security costs

**Key Points:****1. Anatomy and physiology of the pediatric musculoskeletal system.**

- The muscular system is essentially complete at birth. Growth in length and circumference continues as the child grows.
- Injuries to a child's bones may be due to the fact that the growth plate is still open and the child's long bones are less dense than the adults.
- Postural changes occur as the child grows and the musculoskeletal system matures.

## **2. Describe musculoskeletal disorders to include developmental hip dysplasia, scoliosis, muscular dystrophy, osteomyelitis, osteosarcoma, and musculoskeletal injuries.**

- Skeletal defects can be minor and easy to correct or major malformations requiring long-term therapy.
- Musculoskeletal disorders are due partly to changes in bone structure during periods of rapid growth and partly to injuries.
- Musculoskeletal trauma, such as fractures, is a common occurrence in childhood due to play, sporting activities, and taking risks.
- Musculoskeletal infections may be the result of injury or having surgery.
- Periods of rapid growth are the most common time for musculoskeletal tumors to develop.

## **3. Discuss clinical manifestations, diagnostic procedures, and medical management related to musculoskeletal disorders.**

- Obtaining the birth history is an essential part of the assessment as trauma or hypoxia during the birthing process may develop musculoskeletal difficulties.
- Musculoskeletal defects require correction for normal support and movement to occur.
- There is no cure for muscular dystrophy. Respiratory infections need to be treated promptly, and death occurs from respiratory paralysis during adolescence.
- Assistive devices may be used for musculoskeletal disorders and injuries. Proper placement and prevention of complications need to be taught.
- Infections of the bone require long-term antibiotic treatment. Intravenous antibiotics may be administered at home with assistance from a home health nurse.
- Musculoskeletal tumors may result in loss of a body part. Feelings and concerns need to be addressed.

## **4. Appropriate nursing interventions for children with musculoskeletal disorders.**

- A priority nursing role when caring for children with musculoskeletal disorders is to promote independence.
- The nurse should teach the child and the parents to prevent complications with a cast by teaching them to keep the cast dry and clean, avoid using powders or lotions, avoid sticking objects into the cast, and cover the edges of the cast to protect the skin from injury.

- An essential assessment for the nurse to make when caring for a child with a cast is observing for compartment syndrome, which occurs when increased pressure in a limited space compromises circulation and nerve innervation.
- When providing instruction to a child who is learning to walk with crutches, the nurse should ensure that the crutches are not pressing on the axilla and that the child is able to maintain a straight spine when walking.
- Besides physical care, children in traction need attention to their emotional needs.
- The nurse should observe the child with a musculoskeletal disorder for body image disturbance by recognizing certain signs.
  - In Section 4 of this course you will cover these topics:
    - Care Of The Child With Cardiovascular Disorders
    - Care Of The Child With Hematologic Or Lymphatic Disorders
    - Care Of The Child With Immune Disorders
    - Care Of The Child With Gastrointestinal Disorders
    - Care Of The Child With Genitourinary Disorders

### **Topic : Care Of The Child With Cardiovascular Disorders**

#### **Topic Objective:**

After reading this topic the student will be able to:

- Discuss the anatomy and physiology of the pediatric cardiovascular system.
- Describe cardiovascular disorders to include both congenital and acquired disorders.
- Discuss clinical manifestations, diagnostic procedures, medical management related to cardiovascular disorders.
- Explain appropriate nursing interventions for children with cardiovascular disorders.

#### **Definition/Overview:**

**Cardiovascular disease:** Cardiovascular disease refers to the class of diseases that involve the heart or blood vessels (arteries and veins). While the term technically refers to any disease that affects the cardiovascular system (as used in MeSH), it is usually used to refer to those related to atherosclerosis (arterial disease). These conditions have similar causes, mechanisms, and treatments. In practice, cardiovascular disease is treated by cardiologists, thoracic surgeons, vascular surgeons, neurologists, and interventional radiologists, depending on the organ system that is being treated. There is considerable overlap in the specialties, and

it is common for certain procedures to be performed by different types of specialists in the same hospital.

**Rate of Cardiovascular disease:** Most Western countries face high and increasing rates of cardiovascular disease. Each year, heart disease kills more Americans than cancer. Diseases of the heart alone caused 30% of all deaths, with other diseases of the cardiovascular system causing substantial further death and disability. Two out of three cardiac deaths occur without any diagnosis of cardiovascular disease. Up until the year 2005, it was the number 1 cause of death and disability in the United States and most European countries. A large histological study (PDAY) showed vascular injury accumulates from adolescence, making primary prevention efforts necessary from childhood. By the time that heart problems are detected, the underlying cause (atherosclerosis) is usually quite advanced, having progressed for decades. There is therefore increased emphasis on preventing atherosclerosis by modifying risk factors, such as healthy eating, exercise and avoidance of smoking.

### **Key Points:**

#### **1. Discuss the anatomy and physiology of the pediatric cardiovascular system.**

- Fetal blood is oxygenated by the placenta. Blood flow to the lungs is decreased by the foramen ovale and the ductus arteriosus.
- The foramen ovale closes shortly after birth causing the right side of the heart to pump blood to the lungs for oxygenation.
- The ductus arteriosus closes shortly after birth to allow oxygenated blood to be pumped out to the body.
- An infant's heart muscle fibers are not developed fully, and the ventricles are not as compliant to stroke volume; therefore, the infant is very sensitive to volume and pressure overloads.
- Cardiac output is affected by the amount of preload, afterload, and the contractility of the ventricles.

#### **2. Describe cardiovascular disorders to include both congenital and acquired disorders.**

- Cardiovascular disorders are serious health threats resulting from congenital heart anomalies or defects or acquired heart diseases.
- Congenital heart defects may arise when the fetus is exposed to infections, such as rubella, alcohol, or drugs in utero.

- Congenital heart defects can be classified into four groups according to the way the defect affects circulation: defects with increased pulmonary blood flow, defects with decreased pulmonary blood flow, defects that obstruct systemic blood flow, and mixed defects.
- Congestive heart failure is characterized in children according to the type of heart defect.
- Volume and pressure overloads cause congestive heart failure in infants.
- Elevated blood pressure in children is often secondary to kidney disease, coarctation of the aorta, hyperthyroidism, increased intracranial pressure, and side effects of certain medications.
- Kawasaki disease and acute rheumatic fever are inflammatory disorders that can result in damage to the heart.

### **3.Clinical manifestations, diagnostic procedures, medical management related to cardiovascular disorders.**

- Children with congenital and acquired heart defects exhibit signs and symptoms of congestive heart failure. It is important for the nurse to monitor vital signs correctly, document accurately, and monitor for changes in status.
- Congenital anomalies are identified at birth or within the first few weeks of life.
- Anomalies may be repaired immediately or when the child is stronger and able to withstand the surgical procedure.
- Congestive heart failure affects the cardiac, pulmonary, and metabolic systems and may lead to cardiogenic shock.
- Systemic hypertension is diagnosed following three separate measurements of elevated blood pressure.
- Children rarely exhibit symptoms of hyperlipidemia. Diagnosis is based on blood screening for total cholesterol.
- Kawasaki disease is the most common of acquired heart diseases.
- Rheumatic fever is more common in children between 6 and 15 years following a strep throat infection.

### **4.Appropriate nursing interventions for children with cardiovascular disorders.**

- Obtaining an accurate blood pressure measure in children with cardiovascular disorders is important. The appropriate size cuff is important.

- Nursing care for children with cardiac disorders should include assessing oxygen status, promoting oxygenation, and energy conservation. Assessment should include fluid and electrolyte balance.
- Because rheumatic fever most often occurs following a strep infection, the nurse must educate parents on the symptoms and impress on them the need to report these symptoms.
- Polyarthritis of ARF responds better to the anti-inflammatory effects of aspirin than to acetaminophen or ibuprofen. Therefore, parents should administer aspirin only under the supervision of the physician and be instructed to report symptoms of Reyes syndrome.

### **Topic : Care Of The Child With Hematologic Or Lymphatic Disorders**

#### **Topic Objective:**

After reading this topic the student will be able to:

- Describe the anatomy and physiology associated with hematologic system.
- Describe the anatomy and physiology associated with the lymphatic system.
- Discuss the clinical manifestations of disorders of the hematologic and lymphatic systems.
- Discuss the medical management of disorders of the hematologic and lymphatic systems.
- Discuss nursing considerations related to disorders of the hematologic and lymphatic systems.

#### **Definition/Overview:**

**Lymphedema:** Also spelled lymphoedema, also known as lymphatic obstruction, is a condition of localized fluid retention caused by a compromised lymphatic system. The lymphatic system (often referred to as the body's "second" circulatory system) collects and filters the interstitial fluid of the body. Lymphedema has been barely recognized as being a serious health problem; however, this is slowly changing due to education and awareness. The danger with lymphedema comes from the constant risk of developing an uncontrolled infection in the affected limb. Still, physicians and medical staff who practice in fields where this disease is uncommon may fail to correctly diagnose the condition due to the apparent lack of information regarding this disease.



**Key Points:****1. Anatomy and physiology associated with hematologic system.**

- Hematology is the study of blood and blood-forming tissues.
- Hematopoiesis is the production of blood cells in the bone marrow.
- The primary oxygen-carrying cell in the body is the erythrocyte or red blood cell.
- The primary cell in the body that helps to prevent infections is the leukocyte or white blood cell.
- The primary cell in the body that assists with clotting is the thrombocyte or platelet.
- The liver and spleen also play roles in the hematologic system.

**2. Anatomy and physiology associated with the lymphatic system.**

- The lymphatic system transports fluid and filters fluid between the interstitial spaces and the intravascular system and has a role in the body's immune system.

**3. Clinical manifestations of disorders of the hematologic and lymphatic systems.**

- To identify disorders of the hematologic and lymphatic systems, the nurse needs to know how to complete assessments on these systems.
- Bleeding disorders are the result of decreased amount of blood clotting factors or decreased number of platelets.
- Anemia is a decrease in the number of red blood cells and a decrease in hemoglobin or both; caused by blood loss, destruction of red blood cells, or decrease in production of red blood cells.
- Hodgkins lymphoma is a rare malignant disorder of the lymphatic system.
- Leukemia is a cancer of blood-forming organs, characterized by an increase of abnormal white blood cells. There are two types of leukemia in children: acute lymphoblastic anemia and acute myeloid leukemia.

#### **4. Medical management of disorders of the hematologic and lymphatic systems.**

- Hemophilia is a deficiency in specified blood clotting factors. It is a hereditary X-linked recessive disorder that affects mostly males.
- Idiopathic thrombocytopenic purpura is a bleeding disorder that leads to a decrease in the number of platelets.
- Iron deficiency anemia results when the demand for stored iron is more than the body can supply. It is caused by blood loss or poor intake of iron.
- A common complication of iron supplementation is constipation. Fluids, exercise, and fiber are appropriate preventative measures for this complication.
- Sickle cell anemia is abnormally shaped red blood cells that cannot travel through capillaries, resulting in decreased blood flow and decreased oxygen-carrying capacity.
- Thalassemia is an inherited autosomal recessive disorder, caused by abnormal hemoglobin synthesis in which red blood cells are fragile and easily destroyed.
- Hodgkins lymphoma is characterized by enlarged lymph nodes usually in the cervical and supraclavicular areas.
- Acute lymphoblastic leukemia is the overproduction of immature lymphocytes, which crowd out normal white blood cells, red blood cells, and platelets.
- Acute myelogenous leukemia occurs when cancer cells develop in the bone marrow and replace normal bone marrow. Immature white blood cells, red blood cells, and platelets circulate throughout the body.

#### **5. Nursing considerations related to disorders of the hematologic and lymphatic systems.**

- The priority nursing intervention when caring for a child with hemophilia is to prevent bleeding with the use of applying pressure, elevating the site, applying ice, monitoring vital signs, and obtaining venous access.
- When caring for the child with iron deficiency anemia, the nurse must teach the child and the family about adequate dietary sources of iron.
- Liquid iron preparation causes staining of the teeth. The nurse can administer these preparations through a straw to prevent this complication.
- 3. Children who suffer from sickle cell crises experience pain. The nurse must be vigilant in assisting the child to properly manage their pain.
- Preventing infection in children with leukemia is a priority nursing intervention.

- Children, especially adolescents, must be assisted by the nurse in dealing with the side effects of antineoplastic drugs, which include bone marrow depression, nausea, vomiting, stomatitis, and hair loss.

### **Topic : Care Of The Child With Immune Disorders**

#### **Topic Objective:**

After reading this topic the student will be able to:

- Discuss the anatomy and physiology of the pediatric immunological system.
- Describe immunological disorders to include HIV, AIDS, juvenile rheumatoid arthritis, and allergies.
- Discuss clinical manifestations, diagnostic procedures, medical management, and nursing interventions related to immunological disorders.
- Describe the care of children requiring organ transplants.

#### **Definition/Overview:**

**Immune Disorder:** An immune disorder is a dysfunction of the immune system. These disorders can be characterized in several different ways:

- By the component(s) of the immune system affected
- By whether the immune system is overactive or underactive
- By whether the condition is congenital or acquired

According to the International Union of Immunological Societies, more than 150 primary immunodeficiency diseases (PIDs) have been characterized. However, the number of acquired immunodeficiencies exceeds the number of PIDs. It has been suggested that most people have at least one primary immunodeficiency. Due to redundancies in the immune system, though, many of these are never detected.

#### **Key Points:**

##### **1. Anatomy and physiology of the pediatric immunological system.**

- The primary role of the immune system is to recognize and eliminate foreign substances, which provides protection against many diseases.

- There are two types of immunity: natural and acquired.
- There are two types of acquired immunity: humoral and cell-mediated.
- Active immunity is the mechanism by which immunizations provide protection against childhood diseases.
- Passive immunity is provided by administering immunoglobulins to protect against diseases to which the child has been exposed.

## **2.Immunological disorders to include HIV, AIDS, juvenile rheumatoid arthritis, and allergies.**

- Congenital immune disorders may affect humoral and cellular immunity or immunoglobulins.
- The infant can contract HIV via the placenta during pregnancy, by exposure at birth, or through breast milk. The adolescent can be exposed to the virus by sexual contact and intravenous drug use.
- Juvenile rheumatoid arthritis is a chronic autoimmune disorder that causes joint and surrounding tissue inflammation.
- Systemic lupus erythematosus is an autoimmune connective tissue and blood vessel disease that causes inflammation in any organ of the body.
- Allergies are altered reactions to antigens or allergens.
- Latex allergy is an IgE-mediated response to repeated exposure to latex.

## **3.Clinical manifestations, diagnostic procedures, medical management, and nursing interventions related to immunological disorders.**

- To perform an assessment of the immunological system, the nurse needs to understand how the body protects itself against diseases.
- Congenital immune disorders decrease the infants ability to fight off infections.
- The child who develops AIDS is immunocompromised. The nurse must be diligent in assisting the child and family in preventing infections.
- The nurse should teach the client that risk for perinatal transmission is significantly reduced if the mother receives zidovudine therapy during pregnancy and if the infant is delivered by cesarean section.
- Both juvenile rheumatoid arthritis and systemic lupus erythematosus cause inflammation and therefore discomfort and pain in affected children. The nurse must assist the child in maintaining mobility and preventing pain.

- Corticosteroid therapy is commonly prescribed for treatment of systemic lupus erythematosus. There are numerous side effects to monitor for when administering corticosteroids.
- Careful history taking is required to assist the diagnosis of allergies. Common allergies in children include pet fur, cockroaches, cows milk, dust, egg whites, medications, mites, mold, pollen, peanuts, seafood, shellfish, soy, tree nuts, and wheat.
- Anaphylactic shock is a systemic reaction to an allergen that occurs within minutes or up to 2 hours after exposure. Anaphylaxis symptoms, if not treated promptly, can lead to respiratory distress and death.
- Immunotherapy is the prevention and treatment of disease with medications.

#### **4.Care of children requiring organ transplants.**

- Kidneys, hearts, bone marrow, tissues, corneas, and other organs can be transplanted in children.
- Donors for organs can come from either living and deceased individuals or animals.
- The nurse can assist in preparing the child for organ transplantation and providing postoperative care to prevent rejection of the organ.

#### **Topic : Care Of The Child With Gastrointestinal Disorders**

##### **Topic Objective:**

After reading this topic the student will be able to:

- Describe the basic structures and functioning of the GI tract and accessory structures.
- Describe major gastrointestinal disorders in clear, simple terms.
- Discuss clinical manifestations, diagnostic procedures, and medical management related to gastrointestinal disorders.
- Explain appropriate nursing interventions for children with gastrointestinal disorders.

##### **Definition/Overview:**

**Functional Disorders:** Functional disorders are those in which the bowel looks normal but doesn't work properly. They are the most common problems affecting the colon and rectum, and include constipation and irritable bowel syndrome (IBS). The primary causes for functional disorders include:

- Eating a diet low in fiber
- Not drinking enough water or other fluids
- Not getting enough exercise
- Traveling or other changes in routine
- Eating large amounts of dairy products
- Being stressed
- Resisting the urge to have a bowel movement
- Resisting the urge to have bowel movements due to pain from hemorrhoids
- Overusing laxatives (stool softeners) that, over time, weaken the bowel muscles
- Taking antacid medicines containing calcium or aluminum
- Taking certain medicines (especially antidepressants, iron pills, and strong pain medicines such as narcotics)
- Being pregnant

**Key Points:****1. Basic structures and functioning of the GI tract and accessory structures.**

- To understand treatment of gastrointestinal disorders, the LPN/LVN must have an understanding of the anatomy and physiology of the gastrointestinal system.
- The primary organs are hollow-like structures through which food is digested and solid waste is eliminated.
- Deciduous teeth erupt beginning around 6 months of age and continue until 2 years of age until all 20 are in place.
- Deciduous teeth are replaced by 32 permanent teeth beginning around 6 years of age and continuing until 17 to 24 years of age.
- Salivary glands empty secretions into the oral cavity to begin digestion.
- Hydrochloric acid and digestive enzymes are released into the stomach to break down food into a semiliquid substance called chyme.
- In the small intestines, the duodenum continues chemical digestion with intestinal enzymes, and the jejunum and ileum absorb the nutrients.
- The large intestine removes water from the chyme, leaving the solid waste or feces, which are expelled through the anus.
- The accessory organs of the gastrointestinal system are the liver and pancreas, which aid in the digestion process.

- The liver stores blood; produces clotting factors; stores proteins, fats, glucose, iron, vitamins; and detoxifies drugs, hormones, and other substances.
- Chemical digestion is the breakdown of food into small particles that can be absorbed into the blood.

## **2. Major gastrointestinal disorders in clear, simple terms.**

- Gastrointestinal disorders in children include congenital malformations, malabsorption conditions, and problems with motility.
- Gastrointestinal disorders are potentially life-threatening due to fluid and electrolyte imbalance and malnutrition.
- Congenital defects of the gastrointestinal system are the most common of the congenital defects but are not usually life-threatening.
- Children with gastrointestinal inflammatory diseases should be placed on enteric precautions.
- Intestinal parasite outbreaks occur in areas where water is not treated, poor sanitation exists, food is not properly cooked, or children play in contaminated dirt or sandboxes.
- Malabsorption disorders result from lack of nutrients in diet, inability of small intestine to absorb nutrients, or liver disorders that result in lack of bile for digestion and alter metabolism of nutrients.
- Nutrition disorders may have physical or environmental causes.
- Hepatic disorders may cause destruction of the liver, necessitating a liver transplant.
- Motility disorders prevent gastrointestinal contents from moving through the system in a normal manner.
- Most poisonings of toxic substances occur in the home.

## **3. Clinical manifestations, diagnostic procedures, and medical management related to gastrointestinal disorders.**

- Deep palpation of the abdomen is not the responsibility of the LPN, although it is important to understand.
- Congenital malformation of the gastrointestinal system may require multiple surgeries to correct, and therefore, nutrition may be provided by IV administration of TPN.
- The goal of nutritional therapy with gastrointestinal inflammatory diseases is to provide adequate calories and nutrients for growth without aggravating the inflammation and diarrhea.

- All family members and others in direct contact with a child with a parasitic infection should be treated.
- Most malabsorption disorders require lifelong treatment.
- Nutrition deficiencies may occur even in a diet with adequate calories.
- Hepatic disorders affect the ability to detoxify substances and to metabolize medications at the usual rate. Medication dosages may need to be adjusted.
- Motility disorders need surgical treatment if medical treatment is not effective.
- Gastroesophageal reflux is more common in premature infants and children with neurological impairment. Treatment depends on the severity of the disorder.
- Emergency treatment for poisonings is based on the goal of preventing further absorption of the poison and reversing its effects.

#### **4.Appropriate nursing interventions for children with gastrointestinal disorders.**

- The role of the LPN/LVN in caring for children with gastrointestinal disorders is one of assisting with data collection and monitoring the effectiveness of treatments.
- In gastrointestinal disorders, nursing care focuses on meeting the infants and child's needs for fluids and nutrition, promoting comfort, preventing infection, eliminating solid waste, and supporting the parents.
- Frequent hand washing may help to prevent intestinal parasite infestations.
- When failure-to-thrive is the result of environmental factors, the nurse must be alert in observing child/parent interaction to identify any areas of concern in the relationship.
- Nurses and other health care workers could come in contact with blood or body fluids containing hepatitis virus. Standard Precautions should be used at all times.
- Families need to be taught to administer nutrition by tube feeding or IV when long-term treatment is required.
- Nursing implications in health promotion include early detection and treatment of gastrointestinal disorders and community teaching regarding poison risks, environmental assessment, and screening individuals at risk.
  - In Section 5 of this course you will cover these topics:
    - Care Of The Child With Integumentary Disorders
    - Care Of The Child With Endocrine Disorders
    - Care Of The Child With Communicable Diseases
    - Care Of The Child With Psychosocial Disorders
    - Care Of The Family With A Dying Child



## Topic : Care Of The Child With Integumentary Disorders

### Topic Objective:

After reading this topic the student will be able to:

- Review the basic structure and function of skin and describe differences between the skin of a child and an adult.
- Discuss common congenital disorders of skin, their treatment, and nursing care.
- Discuss common infections and infestations of skin in children as well as treatment and nursing care.
- Discuss various types of skin trauma in children as well as treatment and nursing care

### Definition/Overview:

**Zootomy:** In zootomy, the integumentary system is an organ system that protects the body from damage, comprising the skin, hair, scales, nails, sweat glands and their products (sweat and mucus). The integumentary system has a variety of functions; in animals, it may serve to waterproof, cushion and protect the deeper tissues, excrete wastes, regulate temperature and is the location of sensory receptors for pain, pressure and temperature. The name derives from the Latin *integumentum*, which means 'a covering'.

**The integumentary system:** The integumentary system is often the largest organ system. It distinguishes, separates, protects and informs the animal with regard to its surroundings. Small-bodied invertebrates of aquatic or continually moist habitats respire using the outer layer (integument). This gas exchange system, where gases simply diffuse into and out of the interstitial fluid, is called integumentary exchange.

### Key Points:

#### 1. Basic structure and function of skin and describe differences between the skin of a child and an adult.

- The integumentary system is the largest organ system in the body, which includes the skin and associated structures.

- Main functions of the skin include protecting the body from pathogens, temperature regulation, preventing dehydration, providing sensory receptors, and aiding in production of vitamin D.
- Many changes occur in the skin from birth through adolescence as the child grows.

### **2.Common congenital disorders of skin, their treatment, and nursing care.**

- Skin disorders are common among pediatric clients.
- All birthmarks should be examined for color, size, location, texture, and elevation.
- Contact dermatitis can stem from allergens or repeated exposure to irritants.
- Breastfed infants are not as prone to diaper dermatitis.
- Seborrheic dermatitis may be a result of changes in sebaceous glands.
- Eczema is a chronic inflammatory disorder that has been associated with an immune dysfunction of the skin.
- Acne is a common skin condition affecting adolescents.
- Pediculosis and scabies are infestation with parasites that live on the human host.
- Any break in skin integrity provides an opportunity for infection to take hold.
- Dermatophytes are fungi that affect the surface of the skin, hair, and nails.
- Oral candidiasis is usually found in a child with a depressed immune system.

### **3.Common infections and infestations of skin in children as well as treatment and nursing care.**

- Assessment of the skin can be a window into systemic problems involving oxygenation, circulation, nutrition, and hydration.
- The LPN/LVN provides support and education to the family about congenital lesions.
- Irritants cause cells to release histamine, resulting in redness, swelling, and itching
- Concepts for Lecture continued
- Important priorities for the LPN/LVN are promoting healthy skin care and providing methods to prevent skin infections while decreasing pain and discomfort.
- Skin infections should be assessed for signs of erythema, vesicles or pustules, edema, fever, malaise, and texture of skin lesions.
- Focus of nursing care is on preventing the spread of infection and eradicating the infestation.
- Eczema flare-ups are more common during the winter when the air is dry.
- Acne treatment may be topical or systemic, depending on the severity of the condition.
- Psychological and social development may be altered if skin disorders lead to disfigurement.

- Nursing care for head lice focuses on methods to kill the parasite and alleviate itching.
- Pediculosis and scabies can be eradicated with washing clothes, towels, and bed linens with hot water and heated drying.
- Hand washing can help prevent the spread of infection of highly contagious skin infections such as impetigo.
- Cellulitis is a rapid-onset infection that requires medical attention to prevent septicemia.
- Dermatophytes may be transmitted from human to human or from animals to humans.
- Oral candidiasis appears as white plaque in the mouth that bleeds easily.

#### **4. Various types of skin trauma in children as well as treatment and nursing care.**

- There are four types of burns: thermal, chemical, electrical, and radiation burns. Any unusual burn occurring in a pattern could suggest child abuse.
- Burns are assessed for burn depth and amount of burn area. Treatment depends on the seriousness of the burn.
- Nursing care focuses on fluid replacement, pain control, and prevention of infection.
- Low levels of melanin, thin epidermal layer, and long periods of time in sun place children at higher risk for sunburns.
- Melanoma arises from melanocytes, which are the cells damaged by overexposure to the sun's ultraviolet rays over a prolonged period of time.
- Nursing care for frostbite focuses on rewarming the affected area while protecting the skin from further injury.
- Nursing care for bites focuses on assessing local and systemic reactions to bites and teaching about how to prevent further instances of trauma.

#### **Topic : Care Of The Child With Endocrine Disorders**

##### **Topic Objective:**

After reading this topic the student will be able to:

- Identify the location of each endocrine gland, the hormones produced, and the function of each.
- Discuss the interrelationship of the normally functioning endocrine system.
- Discuss disorders of each endocrine gland, including pathology, diagnostic procedures, and medical treatment.

- Explain appropriate nursing interventions for children with endocrine disorders.
- Discuss teaching topics for children with diabetes and their parents.

### **Definition/Overview:**

**Endocrinology:**Endocrinology is a branch of medicine dealing with disorders of the endocrine system and its specific secretions called hormones.

### **Key Points:**

#### **1.Location of each endocrine gland, the hormones produced, and the function of each.**

- The endocrine system performs the function of communication and slow, long-lasting control of various other body systems.
- Hormones are proteins that are the main regulators of growth and development, metabolism, and reproduction.
- Prostaglandins are hormones produced by various tissues throughout the body.
- The pineal gland produces melatonin, which regulates body cycles such as sleep/wake cycles.
- The pituitary gland is called the master gland as it exerts control over other glands.
- The thyroid gland secretes hormones that stimulate cellular metabolism.
- The parathyroid glands release hormones to maintain blood calcium levels.
- The thymus gland has a role in the development and function of the body's immune system.
- The adrenal glands are two separate glands that secrete different hormones.
- The pancreas is the only organ that is both an exocrine and an endocrine gland.

#### **2.Interrelationship of the normally functioning endocrine system.**

- Hormones are regulated by a negative feedback system to control the amount of circulating hormones within a normal range.
- Positive feedback systems occur in response to major events.
- The anterior pituitary gland secretes hormones that stimulate other hormones to be released.
- The posterior pituitary secretes an antidiuretic hormone in response to hydration to prevent dehydration from occurring.
- The thyroid gland secretes calcitonin, and the parathyroid gland secretes parathyroid hormone. The two hormones work together to maintain normal calcium levels in the body.

- Alpha cells in the pancreas secrete glucagon. Beta cells in the pancreas secrete insulin. Glucagon and insulin work together to maintain blood glucose in a normal range.

### **3. Disorders of each endocrine gland, including pathology, diagnostic procedures, and medical treatment.**

- Endocrine disorders display symptoms similar to those of other body systems, making diagnosis difficult at times.
- Endocrine disorders require long-term treatment and monitoring.
- Endocrine disorders are potentially life-threatening due to lack of regulation of other body systems.
- Inborn errors of metabolism are missing or defective enzymes to metabolize certain foods. Special diet must be adhered to in an attempt to prevent complications.
- Pituitary disorders may be caused by brain infections, infarction of the pituitary gland, cranial injury, hypothalamic or pituitary tumors, or psychosocial deprivation.
- Response to growth hormone, sex hormones, and antidiuretic hormone are controlled by the pituitary glands. Treatment is prescribed based on monitoring these blood levels.
- Thyroid hormones are necessary for cellular metabolism, mental functioning, and growth.
- Thyroid disorders must be diagnosed and treated early by monitoring the TSH, T3, and T4 levels and also calcium and phosphate levels.
- Adrenal gland disorders affect the release of corticosteroids, aldosterone, and catecholamines, which affect glucose levels, electrolyte balance, blood pressure, and the fight-or-flight response.
- Treatment of adrenal disorders is aimed at keeping glucose, electrolyte, and blood pressure levels within a normal range for the child.
- The islets of Langerhans of the pancreas affect glucose, protein, and fat metabolism. Disorders range from resistance to insulin to deficient production of insulin.
- A main treatment goal of all types of diabetes mellitus is to prevent complications.
- Metabolic syndrome is an example of the complex nature of endocrine disorders. It affects not only blood glucose levels but also cortisol, thyroid, and sex hormones, cardiac disease, and liver function.
- Treatment of metabolic syndrome is aimed at weight loss and frequent monitoring of blood levels.
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#### **4.Appropriate nursing interventions for children with endocrine disorders.**

- By recognizing and reporting symptoms, the LPN/LVN may assist in identification of an endocrine disorder.
- Families may need to be taught to monitor the child's condition and administer treatments including medication.
- Many treatments of endocrine disorders are expensive and may not be covered by insurance. The nurse may need to provide resource information.
- Nutrition counseling is required for administration of proper diets to children with inborn errors of metabolism.
- Assist the family to receive genetic counseling and grief counseling when the child has Tay-Sachs disease.
- The nurse should support parents and children and help to explain body changes with pituitary disorders.
- Diabetes insipidus can be reversed with treatment, but hypovolemic shock and death can occur if not treated promptly.
- In hypothyroid conditions, teach the importance of lifelong therapy of thyroid replacement medications.
- Concepts for Lecture continued
- With hyperthyroid surgery, monitor for swelling of the throat and how to communicate when the child cannot speak due to the swelling.
- With the child having an adrenal disorder, it is necessary for the nurse to monitor electrolytes and blood pressure levels. Teach parents to perform blood pressure readings correctly.
- Disorders of the pancreas require much client and parent teaching to maintain blood glucose levels within a normal range for the child.
- It is important for the nurse to teach how to monitor blood glucose levels and to teach proper administration of insulin.
- The main emphasis for nursing care of the child with metabolic syndrome is to monitor weight loss and activity to stop and to prevent obesity.

## Topic : Care Of The Child With Communicable Diseases

### Topic Objective:

After reading this topic the student will be able to:

- Discuss the chain of infection
- Explain the specific risk factors for communicable disease in children.
- Describe methods of communicable disease prevention in children.
- Discuss clinical manifestations, diagnostic procedures, and medical management related to childhood communicable diseases.
- Explain appropriate nursing interventions for children with childhood communicable diseases.

### Definition/Overview:

**Infectious pathologies:** Infectious pathologies are usually qualified as contagious diseases (also called communicable diseases) due to their potentiality of transmission from one person or species to another. Transmission of an infectious disease may occur through one or more of diverse pathways including physical contact with infected individuals. These infecting agents may also be transmitted through liquids, food, body fluids, contaminated objects, airborne inhalation, or through vector-borne spread.

**Infectivity:** The term infectivity describes the ability of an organism to enter, survive and multiply in the host, while the infectiousness of a disease indicates the comparative ease with which the disease is transmitted to other hosts. An infection however, is not synonymous with an infectious disease, as an infection may not cause important clinical symptoms or impair host function

### Key Points:

#### 1.Chain of infection.

- Communicable diseases are diseases transmitted directly from person to person or indirectly to a person from a contaminated object.
- For a communicable disease to be transmitted from person to person, there must be a pathogen, reservoir, portal of exit, portal of entry, and a susceptible host.

- Harmful organisms are transmitted by direct and indirect methods.
- Stages of the infectious process include the incubation period, the prodromal period, illness or the stage where clinical symptoms appear, and the convalescent period.

## **2. Specific risk factors for communicable disease in children.**

- The healthy child is able to fight many infections due to active and passive immunity.
- The child is particularly susceptible to communicable diseases due to many factors.
- Concepts for Lecture continued
- By 1 year of age, the child has adult levels of immunoglobulin M antibodies as a defense mechanism to help fight off infections.
- Infants, toddlers, and preschoolers do not have the cognitive ability to understand the danger of passing bacteria from the hand to the mouth and the importance of hand washing.
- Children are exposed to many varieties of harmful bacteria in school, day care, church nurseries, mothers' morning out groups, family gatherings, hospitals, and travel.
- Children under the age of 2 years and those who are immunocompromised or in a weakened state are at an increased risk of nosocomial infections during hospitalization.

## **3. Methods of communicable disease prevention in children.**

- Nursing care for children with communicable diseases includes a variety of standards and precautions designed to prevent transmission of the disease or protect the child from additional harmful bacteria.
- The nurse must be able to implement these precautions: universal, standard, airborne, droplet, contact, and reverse isolation.
- The single most effective way to prevent the spread of communicable diseases is through hand washing.
- Immunizations are an essential tool to protect children against communicable diseases.
- An important nursing role is client and family teaching regarding methods of communicable disease prevention and disaster planning.

## **4. Clinical manifestations, diagnostic procedures, and medical management related to childhood communicable diseases.**

- Communicable diseases are acute infections. It is important for the nurse to understand routes of transmission, the incubation periods, and clinical manifestations of communicable diseases.



- Comfort measures for children with communicable diseases include pain relief measures and measures to relieve pruritus.
- Lyme disease and Rocky Mountain spotted fever are transmitted through tick bites. Tick removal and treatment need to be implemented promptly.
- Lyme disease has three stages of clinical manifestations. Supportive therapy is needed to treat the manifestations.
- The child with Rocky Mountain spotted fever needs to be monitored for bleeding and signs of shock.
- Rabies is transmitted through the bite of an infected animal. Treatment needs to be implemented prior to completing studies on the animal. If animal is found to be rabies free, the vaccines may be stopped.
- The child with rabies may develop hydrophobia. The sight of liquid causes a reflex contraction accompanied by painful contractures in the muscles used for swallowing.

#### **5.Appropriate nursing interventions for children with childhood communicable diseases.**

- The nurse has an important role in recognizing communicable disease symptoms and assisting the family in obtaining appropriate care.
- Priority nursing care includes managing fever, preventing respiratory distress, promoting skin integrity, and promoting comfort.
- The nurse uses skills in communication to teach children and parents how to manage care at home and how to prevent spread of infection.
- Children living in tick-prone areas need added protection from tick bites, which may cause Lyme disease and Rocky Mountain spotted fever. This protection includes insect repellent, long-sleeved shirts, long pants, and a hat when in tick-prone areas and vaccination with LYMERix for older children.

#### **Topic : Care Of The Child With Psychosocial Disorders**

##### **Topic Objective:**

After reading this topic the student will be able to:

- Describe an appropriate psychosocial assessment of the child.

- Describe psychosocial disorders, including autism, Aspergers syndrome, attention deficit disorder, Gilles de la Tourette syndrome, anxiety, depression, anorexia nervosa and bulimia, child abuse (physical and emotional), and substance abuse.
- Describe associated manifestations of psychological disorders to include overeating and obesity and suicide.
- Discuss clinical manifestations, diagnostic procedures, medical management, and nursing interventions related to psychosocial disorders.
- Explain appropriate nursing interventions for children with psychosocial disorders.

**Definition/Overview:**

**Mental Disorder:** Mental disorder or mental illness are terms used to refer to a psychological or physiological pattern that occurs in an individual and is usually associated with distress or disability that is not expected as part of normal development or culture.

**Understanding Mental Disorders:** The recognition and understanding of mental disorders has changed over time. Definitions, assessments, and classifications of mental disorders can vary, but guideline criterion listed in the ICD, DSM and other manuals are widely accepted by mental health professionals.

**Mental Disorder Categories:** Categories of diagnoses in these schemes may include dissociative disorders, mood disorders, anxiety disorders, psychotic disorders, eating disorders, developmental disorders, personality disorders, and many other categories. In many cases there is no single accepted or consistent cause of mental disorders, although they are widely understood in terms of a diathesis-stress model and biopsychosocial model. Mental disorders have been found to be common, with over a third of people in most countries reporting sufficient criteria at some point in their life.

**Mental Disorder Treatment:** Psychotherapy and psychiatric medication are two major treatment options, as well as supportive interventions. Treatment may be involuntary where legislation allows. Several movements campaign for changes to mental health services and attitudes, including the Consumer/Survivor Movement. There are widespread problems with stigma and discrimination.

**Key Points:****1.Appropriate psychosocial assessment of the child.**

- Psychosocial health includes mental, emotional, social, and spiritual stability.
- Alterations in psychosocial health affect the child as well as the entire family.

**2.Psychosocial disorders, including autism, Aspergers syndrome, attention deficit disorder, Gilles de la Tourettesyndrome, anxiety, depression, anorexia nervosa and bulimia, child abuse (physical and emotional), and substance abuse.**

- The Diagnostic and Statistical Manual of Mental DisordersFourth Edition (DSMIV) serves as the main diagnostic reference of mental health professionals in the United States
- Children with autism have difficulty with verbal and nonverbal communication, social interactions, and leisure or play activities.
- The child with ADD has difficulty finishing tasks, is easily distracted, and may move from topic to topic, have difficulty working with others, and have difficulty maintaining relationships.
- The child with ADHD has difficulty finishing tasks, fidgets, may become loud and disrupt others, and has difficulty maintaining relationships.
- Anxiety is subjective feelings of worry, helplessness, insecurity, and apprehension.
- Gilles de la Tourette syndrome is a syndrome of involuntary movements and verbalizations, which increase in stressful situations.
- Depression is a persistent feeling of sadness or hopelessness.
- Bipolar disorder is a disorder characterized by mood swings between mania and depression.
- Anorexia nervosa is a serious disorder and may require hospitalization for teens that ave lost significant weight, have severe electrolyte imbalances, or need constant psychological intervention.
- Bulimia is an eating disorder characterized by binge eating and purging.
- Physical abuse of a child is inflicting pain and injury in a deliberate manner. Bullying and shaken baby syndrome are types of physical abuse.
- Emotional abuse of a child includes attacks on a child's self-esteem and efforts to control, frighten, and embarrass the child.
- Physical neglect is the deliberate withholding of physical care or resources to the child.
- Nonorganic failure to thrive is a disorder characterized by inadequate growth in height and weight.

- Sexual abuse is defined as sexual acts imposed on children or teens who cannot protect themselves due to their incomplete emotional or cognitive development.
- Concepts for Lecture continued
- Children and teens are vulnerable to the hazards of substance abuse due to their incomplete physical developmental levels.
- Fetal alcohol syndrome can occur if a pregnant woman consumes alcohol during pregnancy.

### **1.Associated manifestations of psychological disorders to include overeating and obesity and suicide.**

- Suicide is the second leading cause of death for 15- to 19-year-olds. Early detection is key to preventing suicide.
- Many children have learned a pattern of overeating and obesity from their families and use overeating to compensate for insecurities. Sedentary lifestyle contributes to the risk of obesity.

### **2.Clinical manifestations, diagnostic procedures, medical management, and nursing interventions related to psychosocial disorders.**

- Ensuring the safety of a child with autism is a priority nursing action due to the child's repetitive behaviors, such as head banging and the lack of fear of dangerous situations.
- The nurse must assist the child and family to take medications prescribed for ADD and ADHD properly. Instructions would include avoiding side effects, timing medication administration to maximize attentiveness, and storing medication properly to avoid the risk of having the medication stolen and abused by others.
- For the child with anxiety, the nurse can teach the child coping skills and relaxation techniques.
- The nurse must provide parental support and assist the child in achieving normal development when the child has Gilles de la Tourette syndrome.
- Characteristics of depression can vary from child to child and can be caused by a primary condition or secondary to learned behavior due to dysfunctional family traits.
- Bipolar disorder is characterized by mood swings that vary between mania and depression. Ten to twenty percent of those with bipolar disorder commit suicide.
- With anorexia nervosa and bulimia, variations in fluid balance and nutrition can cause serious risks; the LPN/LVN needs to report significant changes immediately.

- The nurse is legally obligated to report to local or state child protective services or law enforcement authorities any suspicion of child abuse. It can occur as physical abuse, emotional abuse, or sexual abuse.
- Many parents who abuse their children were abused as children, which indicates a learned pattern of discipline and child rearing.
- Shaken baby syndrome is a serious form of physical abuse that may cause permanent brain injury or death.
- Bullying is a form of physical and emotional abuse that occurs outside the home.
- The primary goal of treatment for nonorganic failure to thrive is adequate nutritional support.
- Many children develop dissociation to cope with sexual abuse. They frequently turn to drugs, alcohol, running away, or inflicting pain on themselves or others.
- The nurse must be able to recognize physical and psychological or cognitive symptoms of substance abuse.
- The nurse caring for children and adolescents must give priority to assessing risk factors related to substance abuse.
- Risks of fetal alcohol syndrome have three characteristics: growth retardation, CNS abnormalities, and craniofacial abnormalities.

### **3. Appropriate nursing interventions for children with psychosocial disorders.**

- Therapies used to assist the child with psychosocial disorders are play therapy, group therapy, family therapy, art therapy, behavior therapy, and cognitive therapy.
- The nurse can assist physicians and mental health professionals to administer therapies to assist the child with psychosocial disorders.