Ministry of Higher Education & Scientific Research
Al-Rasheed University College
Nursing Department

وزارة التعليم العالي والبحث العلمي
كلية الرشيد الجامعة
قسم التمريض

حقيبة تعليمية

بعنوان: تمريض الاطفال

إعداد
م.م. مصطفى صالح عبدالنبي
ماجستير علوم تمريض الاطفال

فهرس المحتويات

المقدمة

يعتبر البرنامج التعليمي لمقرر مادة تمريض الاطفال فصلية وتعطى للطالب في المرحلة الثالثة لتعريفه كيفيه العنايه بالطفل خلال مراحل حياته من فتره الرضاعه والى نهايه سن البلوغ في الصحه والمرض (الصحه, ذوي الاحتياجات الخاصه والأطفال المرضى بامراض حادة ومزمنه). ويتم التركيز في هذا الفصل على الحفاظ على كرامه الطفل وتحسين نموه وتطوره حتى في الحالات المرضيه. كذلك يقع الطالب في اعتباراته دور العائله في رعايه الطفل. يركز التدريب العملي على الأطفال الاصحاء كما هو الحال على الأطفال المرضى.

الماده النظريه 3ساعه أسبوعيا ولمده 15 أسبوع. المجموع 45ساعه للفصل الواحد
الماده العمليه 12ساعه أسبوعيا لمده 15 أسبوع. المجموع 180ساعه في كل فصل
المختبر 2ساعه لمدة 15 أسبوع المجموع 30ساعه

دليل البرنامج

1	اسم البرنامج التعليمي	تمريض الاطفال
2	رمز البرنامج التعليمي	NUR306
3	اسم التدريسي	م.م. مصطفى صالح عبدالنبي
4	مدة البرنامج	الماده النظريه 3 ساعه أسبوعيا ولمده 15 أسبوع. المجموع 45 ساعه للفصل الواحد الماده العمليه 12 ساعه أسبوعيا لمده 15 أسبوع. المجموع 180 ساعه في كل فصل المختبر 2 ساعه لمدة 15 أسبوع المجموع 30 ساعه
5	عدد الساعات الكلية	(255) ساعة
6	الفئة المستهدفة من البرنامج	طلبة المرحلة الثالثة / قسم التمريض
7	اسم الجهة المشرفة على التنفيذ	كلية الرشيد الجامعة
8	تاريخ اعداد البرنامج	15 / 9/ 2022
9	الهدف العام للبرنامج	تدريس الطالب مادة تمريض الأطفال لتعريفه كيفيه العنايه بالطفل خلال مراحل حياته من فتره الرضاعه والى نهايه سن البلوغ في الصحه والمرض (الصحه, ذوي الاحتياجات الخاصه والأطفال المرضى بامراض حادة ومزمنه). ويتم التركيز في هذا الفصل على الحفاظ على كرامه الطفل وتحسين نموه وتطوره حتى في الحالات المرضيه. كذلك يقع الطالب في اعتباراته دور العائله في رعايه الطفل. يركز التدريب العملي على الأطفال الاصحاء كما هو الحال على الأطفال المرضى.
10	اهداف البرنامج التفصيلية	يتوقع من الطالب في نهاية البرنامج أن يكون قادراً على: 1-تحسين قدرات الطالب من خلال تطبيق التعلم الذاتي وأسلوب التفكير الانتقادي في مادة العناية التمريضية بالأطفال. 2-تجهيز الممرض المهني (الأكاديمي) بمدى واسع من المعلومات والمهارات في تمريض الاطفال في كافة مجالات القطاعات الصحية. 3-التحديث المستمر للمعارف والاتجاهات والمهارات فيما يتعلق برعاية الأطفال في الصحة والمرض

المنهج

Week	Hours	Unite Subjects	Unite Description
1-2	6 ساعات	**Part 1:** Introduction pediatric nursing	➢ Perspectives of pediatric nursing ➢ Communication with children ➢ Immunization & immunity ➢ Health assessment of the child
3-4	6 ساعة	**Part 2: Newborn Care**	• Immediate newborn care • High risk neonate • Birth injures
5	3 ساعات	**Part 3: child with respiratory dysfunction**	➢ Upper airway infection ➢ lower airway infection
6-7	6 ساعات	**Part 4: child with genitourinary dysfunction**	• Urinary tract infection • Nephrotic syndrome • glomerulonephritis • undescended testis
8-9	6 ساعات	**Part 5: child with gastrointestinal dysfunction**	• Gastroenteritis • Cleft lip and palate • Pyloric stenosis • Hirschsprung disease • Imperforated anus • Intussusception • Celiac disease
10-11	6 ساعات	**Part 6: child with blood dysfunction**	• Iron deficiency anemia • Thalassemia • Hemophilia • Sickle cell anemia • Glucose 6 phosphate dehydrogenase
12-13	6 ساعات	**Part 7: child with cardiovascular dysfunction**	• Cyanotic heart diseases • A cyanotic heart disease
14	3 ساعات	**Part 8: child with neurological dysfunction**	• Spina bifida • Hydrocephalus • Meningitis
15	3 ساعات	**Part 9: child with endocrine dysfunction**	• Diabetes mellitus • Growth hormone deficiency • Hypothyroidism
15 week	**45ساعة**	**9 unites**	**المجموع**

المراجع

References:

* **Wong's Essentials of Pediatric Nursing 11th Edition**
by Marilyn J. Hockenberry PhD RN PPCNP-BC FAAN (Author), David Wilson MS RN C (NIC) (Author), Cheryl C Rodgers PhD RN CPNP CPON (Author)

الارشادات للبرنامج التعليمي

1- الاعداد الجيد للمحاضرة مسبقاً
2- التاكد من توفر جميع الادوات اللازمة وجاهزية كل شئ قبل بدء المحاضرة
3- الحرص على اعداد المحاضرة والحفاظ على الخطة
4- وضع اهداف البرنامج التعليمي
5- البدء في الوقت المحدد للمحاضرة
6- اختيار بعض الطلبة عشوائيا لعمل سؤال شفهي
7- التركيز على احتياجات الطلبة وحسب مستواهم العلمي
8- الاهتمام بالعلاقات الانسانية مع الطلبة
9- الاهتمام بالتفاعل اللفظي وغير اللفظي
10-تشجيع الطلبة على المحاورة وتبادل الخبرات
11-تنويع الاساليب والوسائل
12-عدم الاسهاب والدخول في التفاصيل لابعاد الملل والتركيز على النقاط الهامة
13-تقبل النقد والتصرف بذكاء وصبر في المواقف الحرجة

الاهداف المرجوة من الطلبة

1- الرغبة والحماس للتعليم
2- المشاركة في جميع الانشطة
3- احترام افكار المدرس والزملاء
4- انتقاد افكار المدرس بأدب
5- الحرص على استثمار الوقت
6- تقبل الدور الذي يسند اليه ضمن المجموعة
7- تحفيز افراد المجموعة في المشاركة بالنشاطات
8- الحرص على بناء علاقات طيبة مع المدرس والزملاء اثناء المحاضرة
9- التركيز على التعلم والحرص على التطبيق
10-غلق الموبايل قبل الدخول الى المحاضرة
11-الالتزام بالوقت المحدد للمحاضرة

الأنشطة والأساليب التدريبية المستخدمة في البرنامج

- محاضرة
- ورش عمل
- مناقشة
- سؤال وجواب
- دراسة حالة
- إعداد تقرير أو عرض تقديمي
- العصف الذهني
- حل المشكلات
- التطبيقات العملية

الوسائل التدريبية المستخدمة في البرنامج:

- التعلم القائم على التكنولوجيا
- جهاز حاسوب
- جهاز عرض
- أوراق وأقلام
- سبورة
- الافلام والفديو
- بوربوينت

المحاضرة الاولى

Part 1: Introduction pediatric nursing

- Perspectives of pediatric nursing
- Communication with children
- Immunization & immunity
- Health assessment of the child

الاسبوع الاول :180 دقيقة

- Perspectives of pediatric nursing
- Communication with children

اهداف المحاضرة:

- Define Pediatric nursing history
- Define Pediatric nursing
- Explain Child Health in Iraq
- Identify Roles of Child- Health Nurse
- Identify Child right

الاساليب والانشطة والوسائل المستخدمة

م	الاساليب والانشطة	الوسائل
1	نشاط التعارف (1/1) محاضرة مناقشة سؤال وجواب نشاط متعدد الخيارات(2/1)	جهاز حاسوب جهاز عرض سبورة واقلام

خطة اجراءات تنفيذ المحاضرة

المحاضرة	الاجراءات	الزمن بالدقيقة
الاولى	الترحيب بالطلبة الجدد والتعارف معهم (1/1)	10
	معرفة اولية عن المحاضرة	10
	سؤال شفهي للطلاب بشكل عشوائي لتقيم معرفتهم الاولية	10
	القاء محاضرة باستخدام جهاز العرض والسبورة	100
	استراحة	10
	عرض فديوتوضيحي	10
	نشاط متعدد الخيارات (2/1)	10
	مناقشة النشاط المتعدد الخيارات وكيفية حلها	10
	عرض موضوع واهداف المحاضرة الثانية للاسبوع الثاني	10
	المجموع	**180**

المادة العلمية:

Pediatric Nursing History

The very first nurses had no formal training and treated patients by using folk remedies and medicines that had been pass down to them from their ancestors. Only the wealthy were fortunate enough to see nurses and physicians. In the late 1800s nursing became a trained profession in England with standards, registrations, and regulations led by Florence Nightingale. The United States quickly followed.

The very first hospital dedicated to helping and treating children was founded in Philadelphia in 1855. The purpose of this hospital was to provide excellent child care and to decrease child morality. Very soon after this many more children hospitals were opened in major cities all over the United States. These cities included: Boston in 1869, New York and The District of Columbia in 1870, San Francisco and Albany, New York in 1875, Detroit in 1877, and St. Louis in 1879.

Nursing

ANA (2002, 2003) define nursing as The prevention of illness, the alleviation of suffering, and the protection, promotion, and restoration of health in the care of individuals, families, groups, communities, and populations.

Pediatric nursing

is an art and science of giving holistic nursing care, (bio-psychosocial) to the child from birth through adolescence, and their family in health and illness.

Its purpose is to: promote the highest possible state of health in each child

What is Mortality?

the number of deaths within a particular society and within a particular period of time.

Infant mortality is much higher in the poorest areas of the city.

What is Morbidity?

It is the prevalence of specific illness (acute, chronic, or disabilities) in the population at a particular time & are presented as rates per 1000 population because of their greater frequency of occurrence.

***Infant mortality:** The number of deaths /1000 live births during the first year of life

***Neonatal mortality:** The number of deaths /1000 live births during the first 28 days of life

Child Health in Iraq

They provide comprehensive health care services (preventive & curative)
1- Preventing disease or injury (primary health care)
2- MCH centers.
3- Public health units.

Social, cultural, and religious influences on child health

A- **Socioeconomic Influences:**

1. Poverty
2. Homelessness
3. Migrant Families

B- **Cultural Influences:**

1. Cultural Relativity
2. Relationships with Health Care Providers
3. Communication
4. Food Customs

C- **Cultural Awareness:**

1. Religious Influences
2. Religious Beliefs

Roles of Child- Health Nurse

1-Therapeutic Role

2-Family advocacy/ caring

3-Disease prevention/ Health promotion

4-Health teaching

5-Support /Counseling

6-Restoration role

7-Coordination/ Collaboration

8-Ethical decision making

9-Research

10-Health care planning

Rights of the child / all children need to:

1-Be Free from discrimination

2-Develop physically & mentally in freedom and dignity.

3-Have a name and nationality.

4-Have adequate nutrition, housing, recreation, and medical services.

5-Receive treatment if handicapped.

6-Receive love, understanding, and maternal security.

7-Receive an education and develop his or her abilities.

8- The first to receive protection in disaster.

9- Be protected from neglect, cruelty and exploitation.

نشاط التعارف (1/1)

نشاط للتعارف بين الطلاب والاستاذ

اسم النشاط	نشاط تعارف
الهدف من النشاط	كسر الجمود وبداية الانطلاق للبرنامج التعليمي
ادوات تنفيذ النشاط	جهاز عرض
الية التنفيذ	اختيار طلاب بشكل عشوائي للرد على الاسئلة المعروضة
مدة النشاط	10 دقائق

الاسئلة على جهاز العرض للتعارف

1- الاسم الثلاثي
2- الهوايات والمواهب
3- امنية تتمنى تحقيقها
4- الاسباب التي دعتك لاختيار قسم التمريض

تمرين الخيارات المتعددة (2/1)

اسم النشاط	خيارات متعددة
الهدف من النشاط	معرفة مدى فهم الطالب قبل نهاية المحاضرة
ادوات تنفيذ النشاط	جهاز حاسوب - جهاز عرض - اوراق واقلام
الية التنفيذ	توزيع اوراق تمرين خيارات متعددة على الطلبة والمطلوب اختيار اجابة واحدة صحيحة ومن ثم مناقشة الحلول بشكل جماعي
مدة النشاط	10 دقائق لحل التمرين 10 دقائق لمناقشة الحلول

النشاط (2/1) متعدد الخيارات

Multiple choice questions (MCQ);

1-Mortality mean:

a- the number of deaths within a particular period of time.

b- is much higher in the poorest areas of the city

c- It is the prevalence of specific illness

2- Infant mortality mean:
a- is much higher in the poorest areas of the city.
b- are presented as rates per 1000 population
c- It is the prevalence of specific illness

3- **Morbidity describe:**
a- It is the prevalence of specific illness
b- the number of deaths within a particular period of time.
c- is much higher in the poorest areas of the city

المحاضرة الثانية

- Immunization & immunity
- Health assessment of the child

الاسبوع الثانى: 180دقيقة

اهداف المحاضرة:

- Identify immunity types
- History of vaccination
- Type of vaccine and its characters
- Iraqi schedule of immunization
- Immunization contraindication
- Nursing care of immunized child
- Nursing role during immunization

يتوقع نهاية لمحاضرة ان يكون الطالب قادر على:

By the end of the lecture, the student should be able to;

1- Identify immunity types
2- History of vaccination
3- Type of vaccine and its characters
4- Iraqi schedule of immunization
5- Immunization contraindication
6- Nursing care of immunized child
7- Nursing role during immunization

الاساليب والانشطة والوسائل المستخدمة

م	الاساليب والانشطة	الوسائل
2	نشاط اسئلة عن المحاضرة الاولى (1/2) محاضرة مناقشة سؤال وجواب نشاط متعدد الخيارات(2/2)	جهاز حاسوب جهاز عرض سبورة واقلام

خطة اجراءات تنفيذ المحاضرة

المحاضرة	الاجراءات	الزمن بالدقيقة
الثانية	موجز عن ماقدم بالمحاضرة السابقة وسؤال وجواب عنها (1/2)	10
	معرفة اولية عن المحاضرة الحالية	10
	سؤال شفهي للطلاب بشكل عشوائي لتقيم معرفتهم الاولية	10
	القاء محاضرة باستخدام جهاز العرض والسبورة	100
	عرض فديوتوضيحي	10
	استراحة	10
	نشاط متعدد الخيارات (2/2)	10
	مناقشة النشاط المتعدد الخيارات وكيفية حلها	10
	عرض موضوع واهداف المحاضرة الثانية للاسبوع الثاني	10
	المجموع	**180**

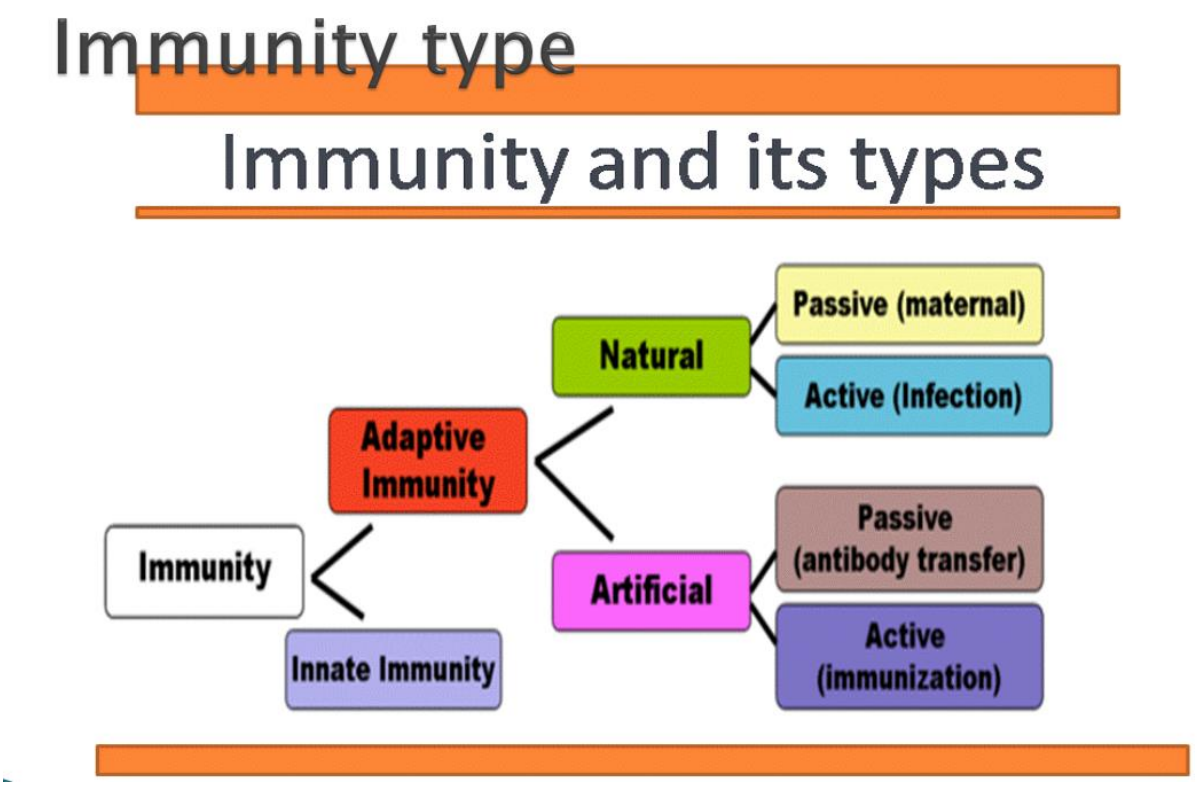
المادة العلمية

Immunity: is the ability of the body to protect agains all types of foreign bodies like bacteria, virus, etc. which enter the body.

Immunity is also called disease resistance.

Types of Immunity:

1. innate or natural or nonspecific
2. acquired or adaptive.



- Immunization is the key disease prevention.
- The development of effective vaccines, beginning

- in the 1940s, revolutionized children's health care.
- Immunization shift care from disease treatment to disease prevention.

- The nurse needs to understand the principles of immunizations, the proper use of vaccines, and barriers to immunization.

Terms

- Immunity: An inherited or acquired state, in which the individual resistant to the infectious agent

- Natural immunity : Innate immunity or resistance to infection or toxicity.
- Acquired immunity: Immunity from exposure to the infectious agent

- Active immunity: A state where immune bodies are actively formed against specific antigens, (either naturally by having a disease or artificially by introducing the antigen)

- Passive immunity: Temporary immunity obtained by transfusing immunoglobulins or antitoxins (either artificially from another human or an animal or naturally from the mother

History of vaccination

In 1796 the experience of the British scientist Edward about the affected workers women with cows` chickenpox consider as driving point in conceptualized preventive medicine later.

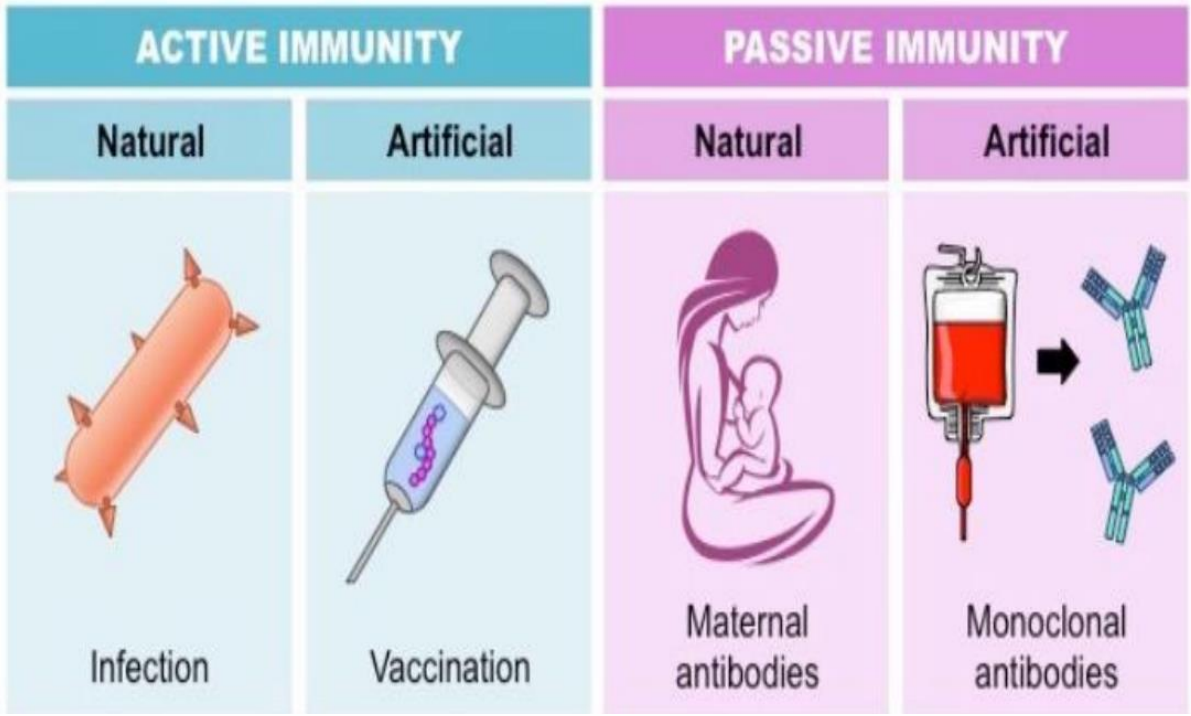
The term vaccination is derived from vaccinia (cow chickenpox).

In 1885 Louis Pasture has invented dog disease vaccine.

In 1923 diphtheria vaccine, 1926 pertussis vaccine, 1955 polio vaccine, 1964 measles vaccine.

Vaccination developed later, the governmental health programs and international organizations

Types of Immunity



Types of vaccine :

1- Bacterial vaccine :

a. Live attenuated . b. Killed vaccine .
c. Toxoid . d. polysaccharide .

2. Viral vaccine :

a. Live attenuated .
b. completely inactivated .
c. inactivated vaccine with antigenic fraction .

What vaccine contain

- Some vaccines contain a very small dose of a live, but weakened form of a virus. Some vaccines contain a very small dose of killed bacteria or small parts of bacteria, and other vaccines contain a small dose of a modified toxin produced by bacteria.

- Vaccines may also contain either a small amount of preservative or a small amount of an antibiotic to preserve the vaccine. Some vaccines may also contain a small amount of an aluminium salt which helps produce a better immune response.

Vaccine characteristics:

1. don't cause disease for the receivers
2. produce active immunity for long period
3. safety administration and accessible manufacturing.
4. do not contain toxoid with little local side effects.

جدول اللقاحات الروتينية في العراق

موعد اعطاء اللقاح	اللقاح
خلال ٢٤ ساعة بعد الولادة	التهاب الكبد الفايروسي نمط ب الاحادي - جرعة اولى
خلال ٧٢ ساعة بعد الولادة	- بي سي جي - شلل الاطفال الفموي - جرعة الصفر
عمر شهرين	- شلل الاطفال الفموي - جرعة اولى - اللقاح الفايروسي الدوار - جرعة اولى - اللقاح الخماسي - جرعة اولى
عمر اربعة أشهر	- شلل الاطفال الفموي - جرعة ثانية - اللقاح الرباعي - جرعة اولى - اللقاح الفايروسي الدوار - جرعة ثانية
عمر ستة اشهر	- شلل الاطفال الفموية - جرعة ثالثة - اللقاح الفايروسي الدوار - جرعة ثالثة - اللقاح الخامس - جرعة ثانية
عمر خمسة عشر شهراً	جرعة اولى MMRالمختلطة
عمر ثمانية عشر شهراً	- شلل الاطفال الفموي - جرعة منشطة اولى - القاح الرباعي - جرعة ثانية (منشطة) ٢٠٠ الف وحدة عالمية A- فيتامين
من ٤ - ٦ سنوات	- شلل الاطفال الفموي - جرعة منشطة ثانية - القاح الثلاثي - جرعة ثانية (منشطة) جرعة ثانية MMR- المختلطة

- اللقاح الفايروسي الدوار ((Rota Virus Vaccine
لا نبدأ بتلقيح الطفل بلقاح الفايروسي الدوار اذا تجاوز عمر - ثلاث اشهر –
- لايتم اعطاء اي جرعة من لقاح الفايروسي الدوار اذا اكمل الطفل عمر ثمانية اشهر
(HIB- اللقاح الخماسي = (لقاح الثلاثي + كبد نمط ب + لقاح المستدمية النزلية
(HIBاللقاح الرباعي = (لقاح الثلاثي + لقاح المستدمية النزلية نوع ب –
في حال عدم ظهور الندبة بعد مضي شهرين على التلقيح بلقاح ال (بي سي جي) يعاد التلقيح مرة ثانية –
- لا يعطي لقاح ال (بي سي جي) للطفل بعد اكمال السنة الاولى من العمر حتى في حالة عدم استلامة جرعة سابقة

الالتزام بمواعيد اللقاحات المتوفرة في مؤسساتنا الصحية يعزز من مناعة أطفالنا ضد الأمراض المعدية ويحمية من العوق او الموت لاسامح الله وإن الحملات التلقيحية ليست بديلاً عن هذة اللقاحات وإنما معززة لمناعة الطفل

Age	Vaccines	Route
First 24 hr	Hepatitis B virus HBV	IM
1 W- 1 M	Oral Polio vaccine OPV	Oral
1 W- 1 M	BCG (Bacillus Calmette Guerin vaccine)	I.D
2 months	Oral Polio vaccine OPV	Oral
	Fifth vaccine (Diphtheria D+ Tetanus T+ Pertussis P+ Hemophilus Influenza b virus + Hepatitis B virus)	IM
	Rota virus	Oral
	Pneumococcal conjugate vaccine	IM
4 months	Oral Polio vaccine OPV	Oral
	Fifth vaccine (Diphtheria D+ Tetanus T+ Pertussis P+ Hemophilus Influenza b virus + Hepatitis B virus)	IM
	Rota virus	Oral
	Pneumococcal conjugate vaccine	IM
	Injectable Polio vaccine IPV	IM
6 months	Oral Polio vaccine OPV	Oral
	Fifth vaccine (Diphtheria D+ Tetanus T+ Pertussis P+ Hemophilus Influenza b virus + Hepatitis B virus)	IM
	Rota virus	Oral
	Pneumococcal conjugate vaccine	IM
	Injectable Polio vaccine IPV	IM
9 months	Measles	S.C
	Vitamin A (100 000 IU)	Oral
12 months	MMR (measles, mumps, rubella)	S.C
18 months	Oral Polio vaccine OPV	Oral
	First booster dose (Diphtheria + Tetanus + Pertussis DTP)	I.M
	MMR (measles, mumps, rubella)	S.C
	Vitamin A (200 000 IU)	Oral
4-6 years	Oral Polio vaccine OPV	Oral
	Second booster dose ((Diphtheria + Tetanus + Pertussis DTP)	I.M
	Vitamin A (200 000	Oral

Nursing Responsibilities

- Review immunization schedule for updates
- Know storing and handling requirements for all vaccines
- Know the action of the vaccine
- Know administration routes, dosages, sites and technique
- Aspirate with each injection
- May have multiple injections on same day, just be sure to give in separate sites

نشاط اسئلة عن المحاضرة الاولى والثانية

اسم النشاط	اسئلة عن المحاضرة السابقة (الاولى والثانية)
الهدف من النشاط	تنشيط ذاكرة الطلبة وتشجيعهم على المراجعة
ادوات تنفيذ النشاط	جهاز عرض
الية التنفيذ	اختيار طلاب بشكل عشوائي للرد على الاسئلة المعروضة
مدة النشاط	10 دقائق

الاسئلة على جهاز العرض

- What is the pediatric nursing?
- What is the meaning morbidity?

النشاط 2/2 الاسئلة المتعددة الخيارات

Multiple choice questions (MCQ);

1- vaccine types include:

a- Bacterial only

b- Viral only

c- Bacterial & viral vaccine

2- vaccine give to neonate after birth:

a- BCG

b- OPV

c- HP

المحاضرة الثالثة + الرابعة

Part 2: Newborn Care

- Immediate newborn care
- High risk neonate
- Birth injures

الاسبوع 3+4: 360 دقيقة

اهداف المحاضرة:

- Identify newborn baby
- Explain Immediate newborn care
- Define and explain High risk neonate
- Identify Birth injures

يتوقع نهاية لمحاضرة ان يكون الطالب قادر على:

By the end of the lecture, the student should be able to;

- Identify newborn baby
- Explain Immediate newborn care
- Define and explain High risk neonate
- Identify Birth injures
- ´ Understand about care of newborn i.e immediate and routine care.
- ´ Discuss about warmth, care of skin, eyes and care of cord etc. ´
- Discuss about warmth, care of skin, eyes and care of cord etc. ´
- Discuss about the important of immunization and breast feeding.

الاساليب والانشطة والوسائل المستخدمة

م	الاساليب والانشطة	الوسائل
4+3	نشاط اسئلة عن المحاضرة الثانية محاضرة مناقشة سؤال وجواب نشاط متعدد الخيارات(2/2)	جهاز حاسوب جهاز عرض سبورة واقلام

خطة اجراءات تنفيذ المحاضرة

المحاضرة	الاجراءات	الزمن بالدقيقة
4+3	موجز عن ماقدم بالمحاضرة السابقة وسؤال وجواب عنها	10
	معرفة اولية عن المحاضرة الحالية	10
	سؤال شفهي للطلاب بشكل عشوائي لتقيم معرفتهم الاولية	10
	القاء محاضرة باستخدام جهاز العرض والسبورة	100
	عرض فديوتوضيحي	10
	استراحة	10
	نشاط متعدد الخيارات (2/2)	10
	مناقشة النشاط المتعدد الخيارات وكيفية حلها	10
	عرض موضوع واهداف المحاضرة الثانية للاسبوع الثاني	10
	المجموع	**2*180**

Neonate:

A newborn baby, specifically a baby in the first 4 weeks after birth.

After a month, a baby is no longer considered a neonate.

Immediate Newborn Nursing Care After Birth

1. Prevention of heat loss
2. APGAR scoring
3. Cutting the cord
4. Clean the eyes of all newborns with plain water.
5. Cleaning the baby
6. Vitamin K1: 1 mg should be given IM to help prevent hemorrhagic disease within 6 hours after birth.
7. Initiate breastfeeding
8. Immunization before discharge
9. Cord care Cord

Prevention of heat loss

Maintain delivery room temperature (23–25°C).

Dry the baby at birth with pre-warmed bedding. Dry the head first to prevent heat loss.

Ensure early skin-to-skin contact. This assists conductive heat transfer from mother to baby.

Keep the baby on the mother's abdomen or chest during routine assessment of newborn.

Delay immediate weighing and measurements to prevent heat loss.

APGAR scoring

Used to assess baby's general condition and is taken at 1, 5, and 10 minutes after birth.

Important for further management of resuscitation but should not delay immediate steps of resuscitation, if needed

The meaning of the APGAR acronym is as follows:

A Appearance (colour)

P Pulse (heart rate)

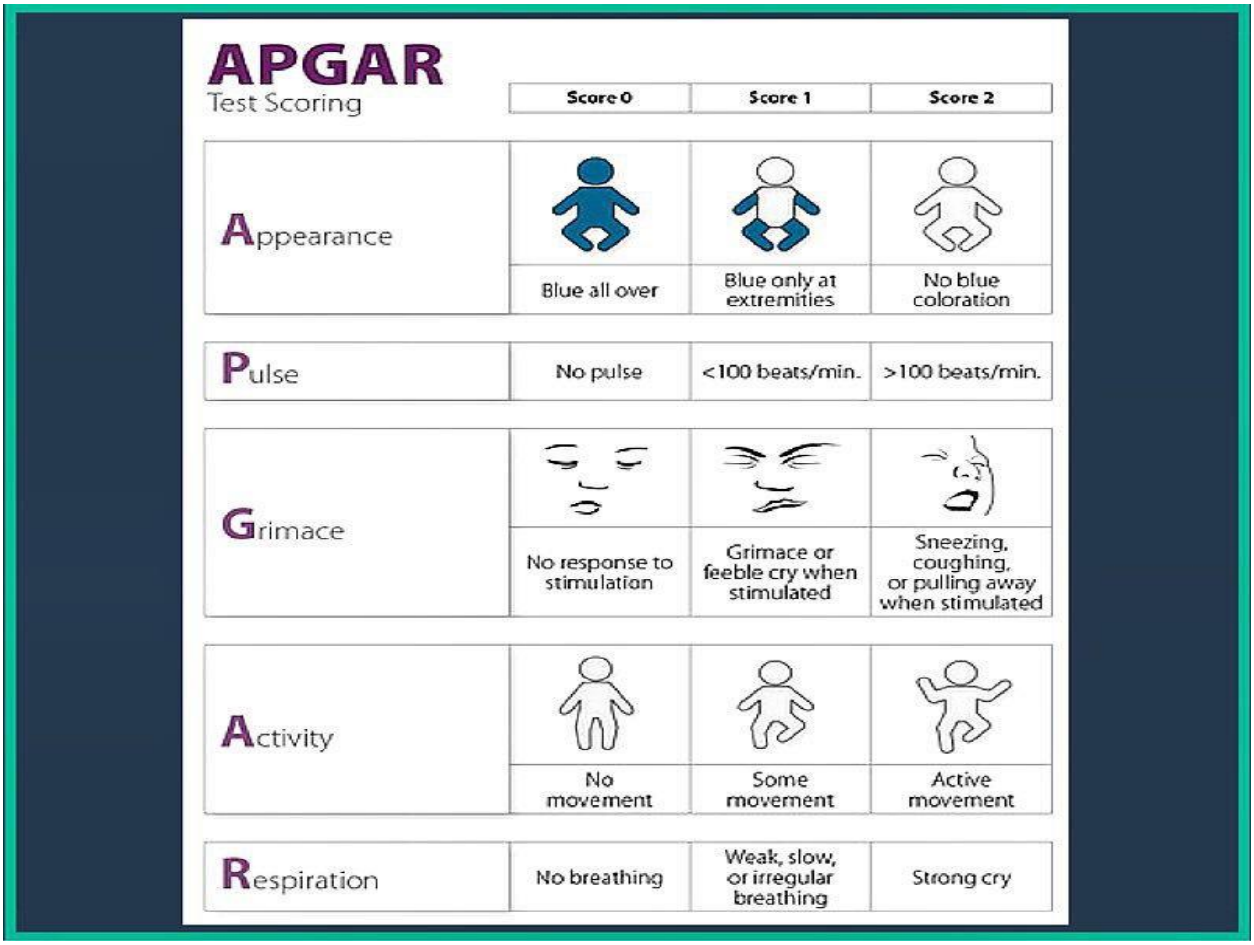
G Grimace (response to stimuli, also called reflex irritability)

A Active (tone)

R Respirations (breathing)

Table 1 – APGAR scoring

Sign	Score		
	0	1	2
Heart rate	Absent	< 100 bpm	>100 bpm
Breathing	Absent	Gasping	Crying
Tone	Limp	Some flexion	Active
Reflex irritability	No response	Grimace	Cough, sneeze, cry
Colour	Blue or pale	Pink body, blue extremities	Completely pink



Immunization before discharge

1. **Oral polio vaccine** should be administered to all newborns
2. **Bacille Calmette-Guérin (BCG)**in all populations at risk of tuberculosis
3. **Hepatitis B** vaccine.

Cord Nursing Care

1. Cord stump should be kept clean and left uncovered to dry and fall off.
2. Antiseptics do not need to be applied routinely.
3. Educate the mother about cord care and possible signs and symptoms of infections of the cord stump.
4. If symptoms of localized infection develop, use 1% gentian violet to treat.

Common Problems after Birth

1-hypothermia

2-hypoglycemia

3-infant Of Diabetic Mother

4-neonatal Sepsis

5-hyperbilirubinemia

6-neonatal Respiratory Disorders

7-meconium Aspiration Syndrome (Mas).

8-apnea

Introduction:

Definition of High-risk Neonate:

Any baby exposed to any condition that make the survival rate of the neonate at danger.

Factors that contribute to have a High-risk Neonate:

A) High-risk pregnancies: e.g.: Toxemias

B) Medical illness of the mother: e.g. Diabetes Mellitus

C) Complications of labor: e.g.:

Premature Rupture Of Membrane (PROM),

Obstructed labor, or Caesarian Section (C.S).

D) Neonatal factors: e.g.: Neonatal asphyxia

Predisposing Factors

- Pregnancy between the age 15 – 19 years
- Elderly Women
- Wrong day
- Multiple pregnancy
- Fetal anomalies
- Heredity

Some Definitions:

- **Low Birth Weight Infant:**

Is any live born baby weighing 2500 gram or less at birth. (VLBW: <1500 gm, ELBW:<1000 gm).

- **Preterm:**

When the infant is born before term. i.e.: before 38 weeks of gestation.

- **Premature:**

When the infant is born before 37weeks of gestation.

- **Full term:**

When the infant is born between 38 – 42 weeks of gestation.

- **Post term:**

When the infant is born after 42 weeks of gestation.

Identification of some High-risk Neonates:

The previous conditions often will result in: Premature birth, Low birth weight infants, or infants suffering from: Hypothermia, Hyperthermia, Hypoglycemia, Infant of Diabetic Mother (IDM), Neonatal Sepsis, Hyperbilirubinemia, and Respiratory Distress Syndrome (RDS).

Hypothermia

Definition:

It is a condition characterized by lowering of body temperature than 36°C.

Types of Hypothermia:

It could be classified according to:

Causes and according to **S*everity*.**

I) According to Causes:

1- Primary Hypothermia: (immediately associated with delivery)

In which the normal term infant delivered into a warm environment may drop its rectal temperature by 1 – 2°C shortly after birth and may not achieve a normal stable body temperature until the age of 4 – 8 hours.

In low birth weight infants, the decrease of body temperature may be much greater and more rapid unless special precautions are taken immediately after birth. (loss at least 0.25 °C/ min.) (careful dryness).

Hyperthermia

Definition:

It is a condition characterized by an elevation in body temperature more than 38°C.

Causes:

1- Disturbance in Heat Regulating Center caused by intracranial hemorrhage, or intracranial edema.
2- Incubator temperature is set too high.
3- Dehydrating fever

*) **Management :**

1) Undress the infant. If at home; keep light cloths, cover that containing light sheet, Or only a diaper if the infant is inside an incubator.
2) Reduction of incubator temperature.
3) Provide Tepid sponge bath.
4) If available; fill the water mattress with tape water, and keep it in contact with the infant's skin.
5) Increase fluid intake in the form of 5cc of Glucose 5% between feeds to prevent dehydration.

Hypoglycemia

Ideally, neonatal hypoglycemia would be defined as the blood glucose concentration at which intervention should be initiated to avoid significant morbidity, especially neurologic sequelae.

However, this definition remains elusive because the blood glucose level and duration of hypoglycemia associated *with poor neurodevelopmental* outcome has not been established.
Neonatal hypoglycemia, defined as *a plasma glucose level of less than 30 mg/dL (1.65 mmol/L) in the first 24 hours of life and less than 45 mg/dL (2.5 mmol/L) thereafter*

*) Neonates at risk for developing hypoglycemia:

1- The main cause may become maternal malnutrition during pregnancy which leads to fetal malnutrition and of course a low birth weight.

2- Those infants whom are Small for gestational age infants (SGA), that manifested by decrease in their birth weight and subcutaneous fat and hepatic glycogen.

3- Those infants' of diabetic mothers (IDM) or those named as large for gestational age (LGA).

Neonatal sepsis

Definition:

Neonatal sepsis is a disease of neonates (who are younger than one month) in which they are clinically ill and have a positive blood culture.

Risk Factors:

I) *Maternal risk factors:*

- e.g.: Premature rupture of membrane.

II) *Neonatal risk factors:*

- e.g.: Prematurity (less immunologic ability to resist infection + more liable to penetrate their defensive barriers).

Nursing Care

Prevention

1- Demonstrate the effect of hand washing upon the prevention of the noscomical infections.
2 -Standard precautions should be applied in the nursery for infection prevention.
3- Instillation of antibiotics into newborn's eye 1-2 hours after birth is done to prevent the infection.
4- Skin car should be done using worm *water* and may use mild soup for removal of blood or meconium and avoid the removal of vernix caseosa.
5- Cord care should be cared out regularly using alcohol or an antimicrobial agent.

Nursing Care

Curative

- **Encourage breast feeding from the mother.**
- Adequate fluid and caloric intake should be administered by gavage feeding or intravenous fluid as ordered.
- Extra-measure for hypothermia or hyperthermia that may take place to the newborn.
- Administering medications as doctor order.
- Follow the isolation precautions.
- Monitoring intravenous infusion rate and antibiotics are the nurse responsibility.

Hyperbilirubinemia Jaundice

Definition:

Hyperbilirubinemia is an elevation in the neonatal serum bilirubin characterized by **JAUNDICE**, which is defined as *"yellowish discoloration of skin and mucous membranes"*. In the neonate clinical jaundice is diagnosed if the total serum bilirubin is ≥ 7 mg/dl.

N.B.:

The normal adult range of Total Serum Bilirubin is 0.2 – 1 mg/dl (Direct: 0 – 0.2 mg/dl and Indirect: 0.2 – 0.8 mg/dl).

The following are possible causes of hyperbilirubinemia in the newly born infants:

1. *Over production of bilirubin.*
2. *Under excretion of bilirubin.*
3. *Combined over production and under excretion.*
4. *Physiological jaundice.*
5. *Breast milk associated jaundice.*

Clinical Presentation:

Kernicterus progresses through 4 stages:

Stage I: Poor Moro reflex, poor feeding, vomiting, high-pitched cry, decreased tone and lethargy.

Stage II: Spasticity, seizures, fever. Neonatal ***mortality is high at this stage (80%).***

Stage III: A symptomatic (Spasticity decreases and all remaining clinical signs and symptoms may disappear).

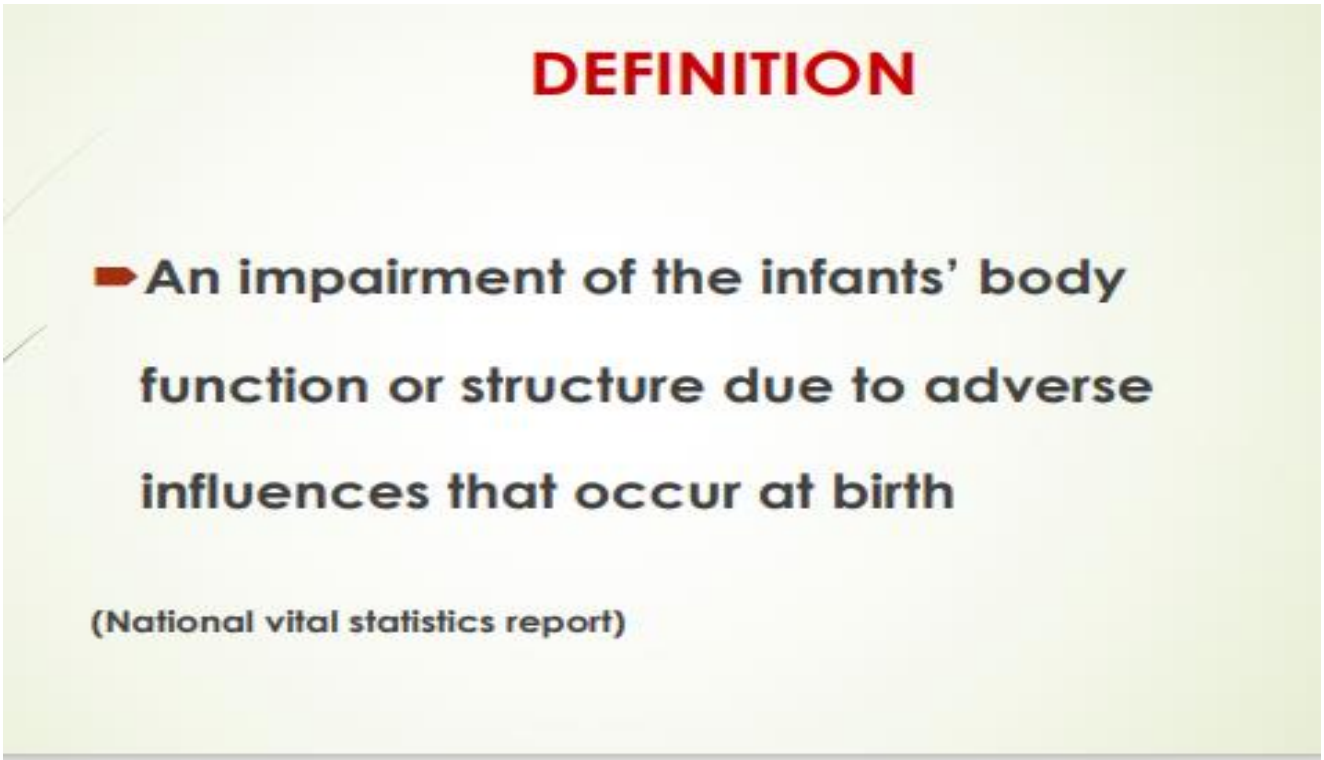
Stage IV: Appears after the neonatal period. Long-term sequelae can include: spasticity quadriplegia, deafness and mental retardation (for the 20%).

•Phototherapy:

Nursing care for those infants receiving Phototherapy:

1. Cover the infant's eyes and genital organs.
2. The infant must be turned frequently to expose all body surface areas to the light.
3. Serum bilirubin level /4 – 12 hours.
4. Each shift, eyes are checked for evidence of discharge or excessive pressure on the lids and eye care should be done using warm water, then apply eye drops or ointment.

5. Eye cover should be removed during feeding, and this opportunity is taken to provide visual and sensory stimuli.
6. Avoid oily lubricants or lotion on the infant's exposed skin, because this can act as a barrier that prevent penetration of light through the skin.
7. Increase feeds in volume and calories. Add 20% additional fluid volume to compensate for insensible and intestinal water loss.
8. Intake and output chart.



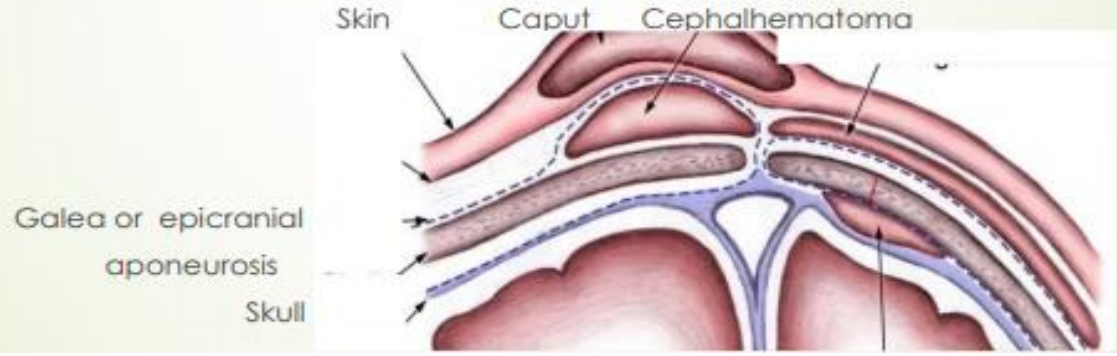
Birth Injurie

TYPES

- Head and neck injuries
- Nerve injury
- Facial injuries
- Fractures

Head and Neck Injury

EXTRACRANIAL INJURIES
CAPUT SUCCEDANEUM
CEPHALHEMATOMA



APUTSUCCEDANEUM

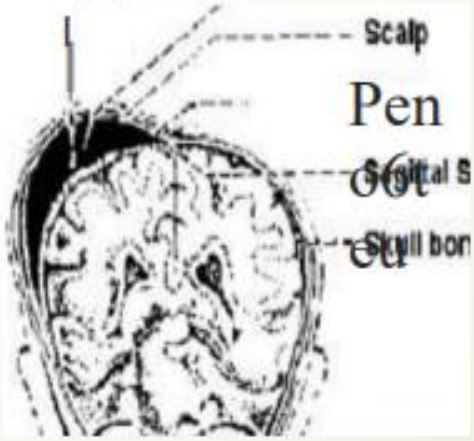
- A caput succedaneum is a serosanguinous fluid collection above the periosteum. It presents as a soft tissue swelling with purpura and ecchymosis over the presenting portion of the scalp.
- The edema disappears within the 1st few of life.
- Molding of the head and overriding.
- Rarely, a hemorrhagic caput may result in injury

CEPHALHEMATOMA

- A cephalhematoma is a subperiosteal blood collection caused by rupture of vessels beneath the periosteum.
- **Clinical features**
- Swelling, usually over a parietal or occipital bone
- Swelling does not cross a suture line and is often not associated with discoloration of the overlying scalp.
- Limited to the surface of one cranial bone.
- **Diagnosis**
- **Physical examination**
- **Skull radiography**
- **MRI**

CEPHALHEMATOMA

- If infection is suspected, aspiration of the mass
- If sepsis, antibiotics
- hyperbilirubinemia - photo therapy



CRANIAL INJURIES

- **LINEAR SKULL FRACTURES**
- **DEPRESSED SKULL FRACTURES**
- Usually affect the parietal bones.
- The pathogenesis is related to compression from the application of forceps, or from the skull pushing against the maternal symphysis.

INTRACRANIAL INJURY

- intracranial hemorrhage
- Epidural hemorrhage
- Subdural hemorrhage
- Subarachnoid hemorrhage

INTRACRANIAL HAEMORRHAGE

- Bleeding can occur
  - External to the brain into the epidural, subdural or subarachnoid space
  - In to the parenchyma of the cerebrum or cerebellum
  - Into the ventricles from the subependymal

RISK FACTORS

- forceps delivery
- vacuum extraction
- precipitous deliver
- prolonged second stage of labor
- macrosomia

FACIAL NERVE PALSY (BELL'S PALSY)

- **Risk factors**
- forceps delivery
- prolonged second stage of labor
- **Clinical manifestations:**
- weakness of both upper and lower facial muscles.
- At rest, the nasolabial fold is flattened and the eye remains persistently open on the affected side.
- During crying, there is inability to wrinkle
- lacerations and bruising
- neurologic findings

Spinal Cord Injury

- Lesions above C4 are almost always associated with apnea
- Lesions between C4 and T4 may have respiratory distress secondary to varying degrees of involvement of the phrenic nerve and innervation to the intercostal.
- **Management**
- If cord injury is suspected in the delivery room, the head, neck, and spine should b immobilized
- Therapy is supportive.

Facial Injury
NASAL SEPTAL DISLOCATION

- Nasal septal dislocation involves dislocation of the triangular cartilaginous portion of the septum from the vomerine groove.
- **CLINICAL FEATURES**
- airway obstruction
- deviation of the nose to one side
- The nares are asymmetric, with flattening of the side of the dislocation

Management

Definitive diagnosis can be made by rhinoscopy

manual reduction performed by an otolaryngologist using a nasal elevator.

Reduction should be performed by 3 days of age

Fractures

- **CLAVICULAR FRACTURE**
- clavicle is the most frequently fractured bone during birth
- **Risk factors**
- higher birth weight
- prolonged second stage of labor
- shoulder dystocia
- instrumented deliveries
- **Management**
- Asymptomatic incomplete fractures no treatment require
- Complete fractures are treated with immobilization of the arm for 7 to 10 days

LONG BONE FRACTURES

- **Risk factors**
- breech presentation
- cesarean delivery
- low birthweight
- **CLINICAL FEATURES**
- decreased movement of the affected extremity, swelling, pain with passive
- movement, and crepitus
- **DIAGNOSIS**
- Diagnosis is made radiographically
- Ultrasonography
- **Treatment**
- immobilization and splinting , Closed reduction and casting are required only when the bones are displaced
- Proximal femoral fractures may require a spica cast or use of a Pavlik harness

نشاط اسئلة عن المحاضرة الثالثة والرابعة

اسم النشاط	اسئلة عن المحاضرة السابقة (الثالثة والرابعة)
الهدف من النشاط	تنشيط ذاكرة الطلبة وتشجيعهم على المراجعة
ادوات تنفيذ النشاط	جهاز عرض
الية التنفيذ	اختيار طلاب بشكل عشوائي للرد على الاسئلة المعروضة
مدة النشاط	10 دقائق

الاسئلة على جهاز العرض

- What is the high risk of neonate?
- What is the birth injuries?

النشاط 2/2 الاسئلة المتعددة الخيارات

Multiple choice questions (MCQ);

1- The meaning of the APGAR acronym is as follows accept one of them:

A Appearance (color)

P Pulse (heart rate)

A Active (tone)

H HYPERTHERMIA

R Respirations (breathing)

2- immunization before discharge give to child

a) Oral polio vaccine

b) MMR

c) MEASEALS

المحاضرة الخامسة

Part 3: child with respiratory dysfunction

- Upper airway infection
- lower airway infection

الاسبوع الخامس: 180دقيقة

اهداف المحاضرة:

Overview of respiratory system anatomy
Explain Upper airway infection
Explain lower airway infection
Define the diseases related to respiratory system
Nursing role

يتوقع نهاية لمحاضرة ان يكون الطالب قادر على:

By the end of the lecture, the student should be able to;
Identify respiratory system anatomy
identify Upper airway infection
identify lower airway infection
identify the diseases related to respiratory system
apply Nursing role

الاساليب والانشطة والوسائل المستخدمة

م	الاساليب والانشطة	الوسائل
5	نشاط اسئلة عن المحاضرة 5 محاضرة مناقشة سؤال وجواب نشاط متعدد الخيارات(2/2)	جهاز حاسوب جهاز عرض سبورة واقلام

خطة اجراءات تنفيذ المحاضرة

المحاضرة	الاجراءات	الزمن بالدقيقة
5	موجزعن ماقدم بالمحاضرة السابقة وسؤال وجواب عنها	10
	معرفة اولية عن المحاضرة الحالية	10
	سؤال شفهي للطلاب بشكل عشوائي لتقيم معرفتهم الاولية	10
	القاء محاضرة باستخدام جهاز العرض والسبورة	100
	عرض فديوتوضيحي	10
	استراحة	10
	نشاط متعدد الخيارات (2/2)	10
	مناقشة النشاط المتعدد الخيارات وكيفية حلها	10
	عرض موضوع واهداف المحاضرة الثانية للاسبوع الثاني	10
	المجموع	**180**

المادة العلمية

Introduction to Respiratory System

- 10,000L/day of air - filtered, moistened,warmed, 0_2/Co2. exchanged.!

- Full capacity 6L. (500ml at rest)
- Sinusitis, pharyngitis, Laryngitis...* URI
- Pneumonia: Inflammation of lung * LRI
- Chronic: COPD, Fibrosis - Smoking

Respiratory infections

- Infections of the respiratory tract can occur i
- The upper respiratory tract
- The lower respiratory tract
- Both.
- Organisms capable of infecting respirat structures include:
- bacteria.
- viruses: the majority of upper respiratory t infections are caused by viruses as *rhino virus and parainfluenza virus.*

Respiratory infections

- The respiratory tract is protected by a number of v
- effective **defense mechanisms.**
- For an organism to reach the lower respiratory tract, **organism must be particularly virulent** and present in v large numbers or the **hostdefense barriers** must weakened.
- - Factors that might weaken the respiratory defe b arriers:
- x Cigarette smoking, which can paralyze the cilia lining
- cells of the respiratory passages and impair removal

Upper respiratory tract Infections
THE COMMON COLD

- The most common viral pathogens for t "common cold" are *rhinovirus, parainfluen virus, respiratory syncytial virus, adenovir* and *coronavirus.*
- They enter body through the mucous membra, n
- of the nose and eye. They are readily spree from person to person via respiratory secretions
- Manifestations of the common cold include:
- *Rhinitis:* Inflammation of the nasal mucosa

INFLUENZA

- **Symptoms of influenza :**
- Headache
- x Fever, chills
- x Muscle aches
- x Nasal discharge
- x Unproductive cough
- x Sore throat
- Influenza infection **can cause** marked inflammationof respiratory epithelium and a loss of ciliated cells that protect respiratory system from organisms

Treatment of influenza

- x Bed rest, fluids, warmth
- x Antiviral drugs

- x Influenza vaccine :
- Provides protection against certain A and influenza strains that are expected to prevalent in a certain year
- The vaccine must be updated administered yearly to be effective but will not be effective against influenza strains

Asthma

- Asthma is the most common chronic disease of childhood and the leading cause of childhood morbidity from chronic disease as measured by school absences, emergency department visits, and hospitalizations.
- Asthma leads to recurrent episodes of wheezing, breathlessness, chest tightness and coughing (particularly at night or early morning).
- Clinical symptoms in children 5 years and younger are variable and non-specific.
- Widespread, variable, and often reversible airflow limitation.

Asthma

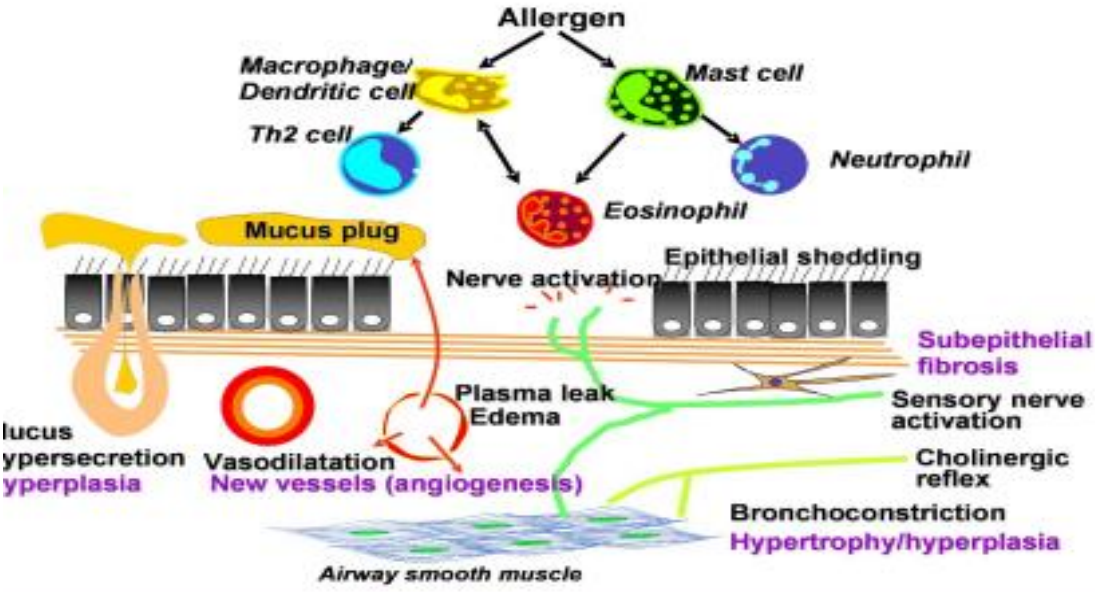
- Chronic hypersensitivity inflammatory disease of bronchi excess mucous and spasmodic occlusion.
- It involves difficulty in breathing due to hypersensitivity
- Asthma is a chronic lung disease that obstructs airflow
- The obstruction is reversible

Asthma Clinical Pathology

- **Causes**
- **Allergic: allergens, infection, Virus infections**
- **Chemical sensitizers**
- **non-allergic: neurogenic, psychogenic**
- **Air pollutants , including dusts, Diesel exhaust; tobacco smoke, mists & fumes.**

Airway Hyperresponsiveness Genetic*

Asthma Inflammation – Cells and Mediators



Symptoms of asthma

- Coughing
- Wheezing, a whistling sound
- Shortness of breath
- Chest tightness
- Sneezing & runny nose
- dyspnea, catching for air.
- **Can asthma be cured?**
- **Asthma can be controlled** (but not cured) by:
- Avoiding triggers or reducing exposure to triggers
- Using medication to control symptoms

Medications

- Medications generally two types are

  - Long-term drugs
    - Taken to prevent excess production of mucus & toreduce the inflammation and constriction of airway muscles
    - Short-term drugs
    - Bronchodilators, Antibiotics, Antipyretics.

Nursing care for child with Asthma

- Identify and minimize contact with your asthma trigger(s)
- **Air pollutants , including dusts, Diesel exhaust; tobacco smoke, mists & fumes.**
- Understand and give asthma medications as doctor order.
- Recognize early signs that child has during take history.
- Educate the family about child's conditions and types of food and clean home environment from **Air pollutants.**

LARYNGITIS

- **An inflammation of the larynx**It causes hoarse voice or the complete loss of the voice because of irritation to the vocalfolds

BRONCHITIS

- **Bronchitis is an inflammation of the main air passages to the lungs.**
- Most prevalent in winter
- Generally ,part of an acute URI
- It may develop after a common cold or other viral infection of the nasopharynx, throat or bronchi.

Bronchiolitis in children

- Commonest cause of wheezing in children between 6 months to 3 years
- Resembles asthma
- Diagnosis essentially clinical
- Common viruses causing bronchiolitis in children:
  - Respiratory syncytial virus (RSV)

Signs & symptoms

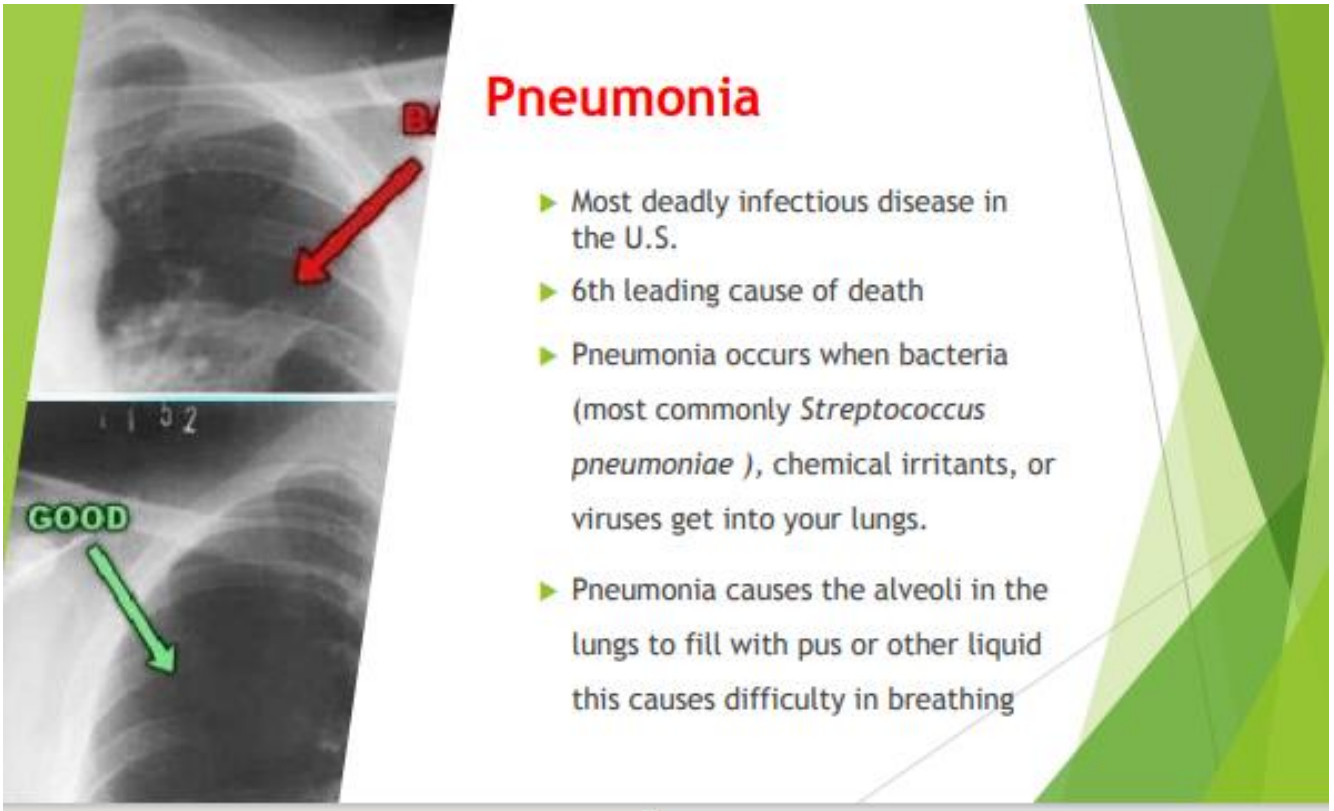
- Malaise
- Chilliness
- Slight fever
- Back and muscle pain
- Sore throat
- Onset of distress, cough, and chest pain.

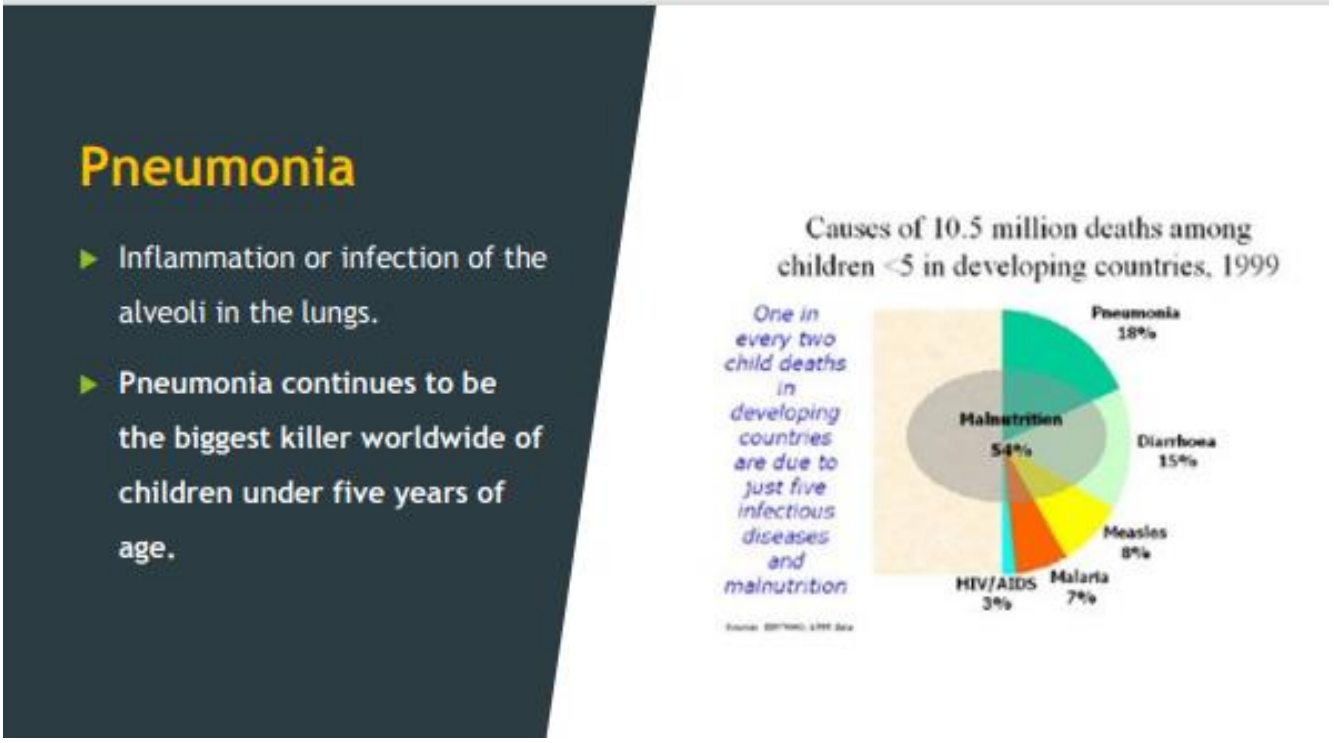
Treatment

The child need to see doctor to give antibiotic and rest for 3 days and hot fluid by oral to moisture the throat

Clinical manifestations

- Rhinorrhea
- Pharyngitis
- Cough
- Low grade fever
- Wheezing
- Increased respiratory rate


Pneumonia
Most deadly infectious disease in the U.S.
6th leading cause of death
Pneumonia occurs when bacteria (most commonly Streptococcus pneumoniae), chemical irritants, or viruses get into your lungs.
Pneumonia causes the alveoli in the lungs to fill with pus or other liquid this causes difficulty in breathing
GOOD


Pneumonia
Inflammation or infection of the alveoli in the lungs.
Pneumonia continues to be the biggest killer worldwide of children under five years of age.
Causes of 10.5 million deaths among children <5 in developing countries, 1999
One in every two child deaths in developing countries are due to just five infectious diseases and malnutrition
Pneumonia 18%
Diarrhoea 15%
Measles 8%
Malaria 7%
HIV/AIDS 3%
Malnutrition 54%

Risk Factors

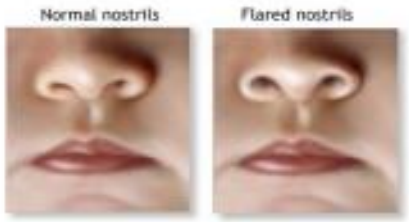
- Significant risk factors were younger age (2-6 months), low parental education, smoking at home, prematurity, weaning from breast milk at < 6 months, a negative history of diphtheria, pertussis and tetanus vaccination, anemia and malnutrition.

Signs and symptoms

- Fever, cough and rapid breathing are the most common presenting symptoms.
- These are usually preceded by a upper respiratory tract infection .
- Other symptoms include lethargy, poor feeding, and an 'unwell' child.
- Some children do not have a cough at presentation.
- Examination reveals tachypnoea, nasal flaring and chest indrawing.
- In contrast to asthma, the most sensitive clinical sign of pneumonia in children is increased respiratory rate, and pneumonia can sometimes be missed if the respiratory rate is not measured in a febrile child (so-called silent pneumonia).
- There may be end-inspiratory coarse crackles over the affected area

Signs and symptoms

- Viral:
- • Usually several days of URI symptoms; low-grade fever
- • Most consistent manifestation is tachypnea
- Bacterial pneumonia:
- • Sudden shaking chills with high fever, acute onset
- • Significant cough and chest pain
- • Tachypnea; productive cough



ADAM

Types of pneumonia

- Chlamydia trachomatis pneumonia:
- No fever or wheezing , 1-3 months of age, with insidious onset
- May or may not have conjunctivitis at birth>
- Mycoplasma pneumoniae :
- Atypical, insidious pneumonia; constitutional symptoms
- Bronchopneumonia:
- gradual onset of constitutional symptoms with persistence of cough and hoarseness; coryza is unusual (usually viral)
- Cough worsens with dyspnea over 2 weeks

Treatment of Pneumonia

- Most affected children can be managed at **home** but **indications for admission** include:
- oxygen saturation <92%,
- recurrent apnea, grunting, cough, septum.
- **Antibiotics**
- **General supportive care: should include**
- **oxygen** for hypoxia and
- **analgesia** if there is pain.
- **Intravenous fluids** should be given if necessary to correct dehydration and maintain adequate hydration and sodium balance.
- **Physiotherapy** has no proven role

Nursing care for children with pneumonia

- improve airway patency.
- Rest to conserve energy.
- Maintenance of proper fluid volume.
- Maintenance of adequate nutrition.
- Understanding of treatment protocol and preventive measures.
- Absence of complications.
- Nursing Priorities
- Maintain/improve respiratory function.
- Prevent complications.
- Support recuperative process.
- Provide information about disease process, prognosis, and treatment.

نشاط اسئلة عن المحاضرة الخامسة

اسم النشاط	اسئلة عن المحاضرة السابقة (الخامسة)
الهدف من النشاط	تنشيط ذاكرة الطلبة وتشجيعهم على المراجعة
ادوات تنفيذ النشاط	جهاز عرض
الية التنفيذ	اختيار طلاب بشكل عشوائي للرد على الاسئلة المعروضة
مدة النشاط	10 دقائق

الاسئلة على جهاز العرض

- What are the types of pneumonia?
- Classification the disease of respiratory?

النشاط 2/2 الاسئلة المتعددة الخيارات

Multiple choice questions (MCQ);

1- **pneumonia characterized by:**
   a- wheezing
   b- cough
   c- sneezing
2- **signs and symptoms of influenza are:**
   a- fever
   b- thirst
   c- dry skin
3- **asthma is considering:**
   a- URD
   b- LRD
   c- combined

المحاضرة 6+7

Part 4: child with genitourinary dysfunction

- Urinary tract infection
- Nephrotic syndrome
- glomerulonephritis
- undescended testis

الاسبوع 6+7: 360 دقيقة

اهداف المحاضرة:

Overview of Urinary tract anatomy
Explain Urinary tract infection
identify Nephrotic syndrome
define glomerulonephritis
Define the diseases related to URINARY system
Nursing role

يتوقع نهاية لمحاضرة ان يكون الطالب قادر على:

By the end of the lecture, the student should be able to;

Identify URINARY system anatomy
identify Urinary tract infection
identify Nephrotic syndrome
identify glomerulonephritis
identify the diseases related to URINARY system
apply Nursing role

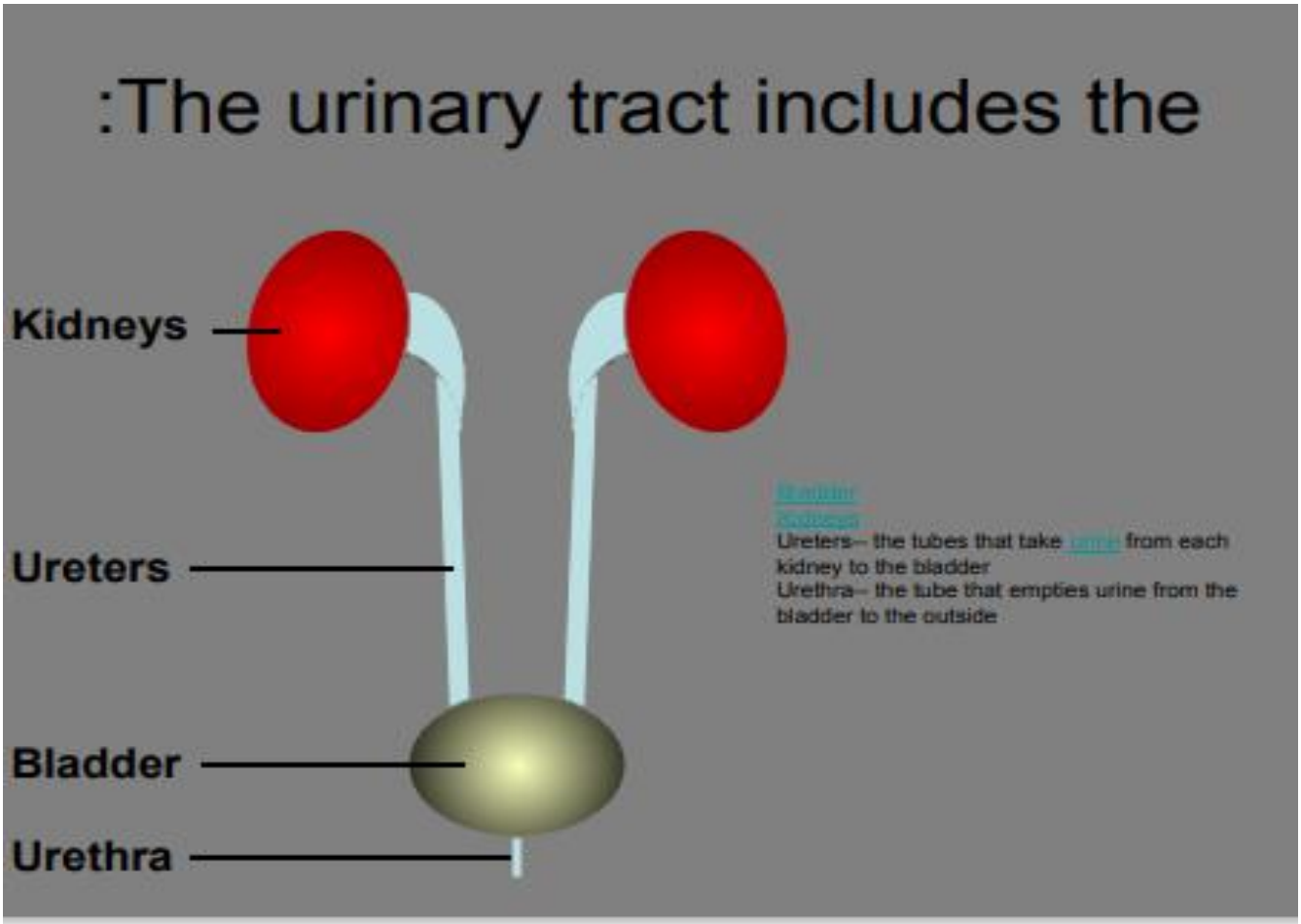
الاساليب والانشطة والوسائل المستخدمة

م	الاساليب والانشطة	الوسائل
7+6	نشاط اسئلة عن المحاضرة 7+6 محاضرة مناقشة سؤال وجواب نشاط متعدد الخيارات(2/2)	جهاز حاسوب جهاز عرض سبورة واقلام

خطة اجراءات تنفيذ المحاضرة

المحاضرة	الاجراءات	الزمن بالدقيقة
7+6	موجز عن ماقدم بالمحاضرة السابقة وسؤال وجواب عنها	10
	معرفة اولية عن المحاضرة الحالية	10
	سؤال شفهي للطلاب بشكل عشوائي لتقيم معرفتهم الاولية	10
	القاء محاضرة باستخدام جهاز العرض والسبورة	100
	عرض فديوتوضيحي	10
	استراحة	10
	نشاط متعدد الخيارات (2/2)	10
	مناقشة النشاط المتعدد الخيارات وكيفية حلها	10
	عرض موضوع واهداف المحاضرة الثانية للاسبوع الثاني	10
	المجموع	**180*2**

المادة العلمية



Which Urologic problems?

1-Urinary Tract Infections(UTI)
2-Acute Glomerulonephritis
3-Nephrotic syndrome
-undescended testis)4

Definition

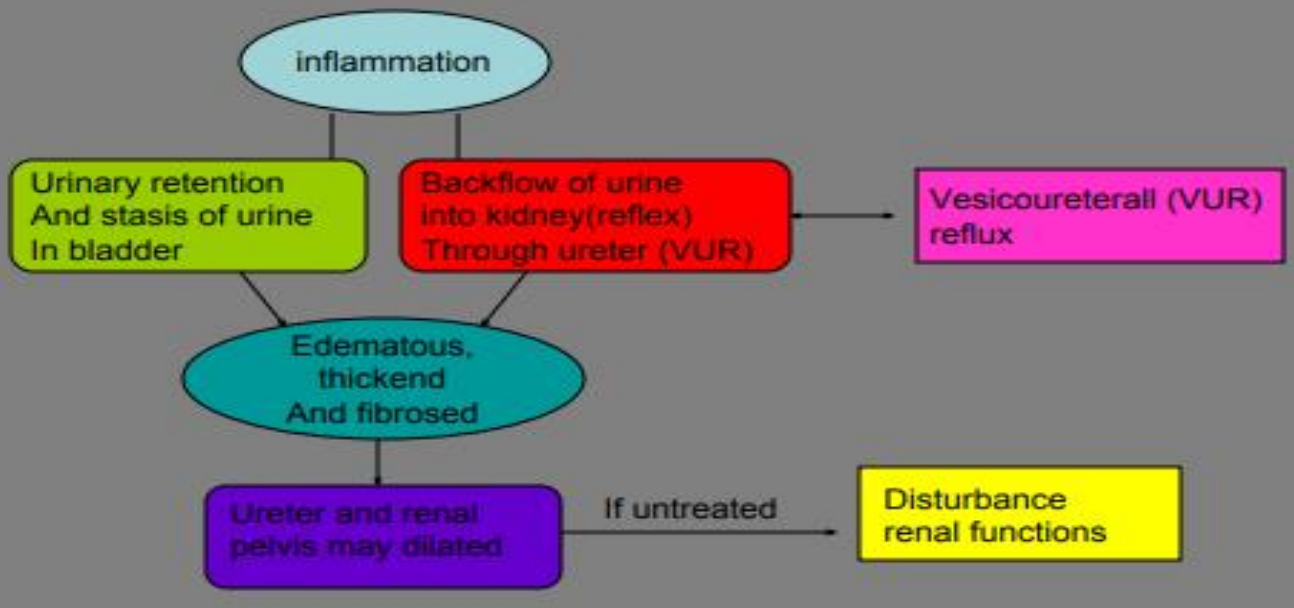
A urinary tract infection (UTI) is a bacterial ,viral, or fungel infection of the urinary tract.

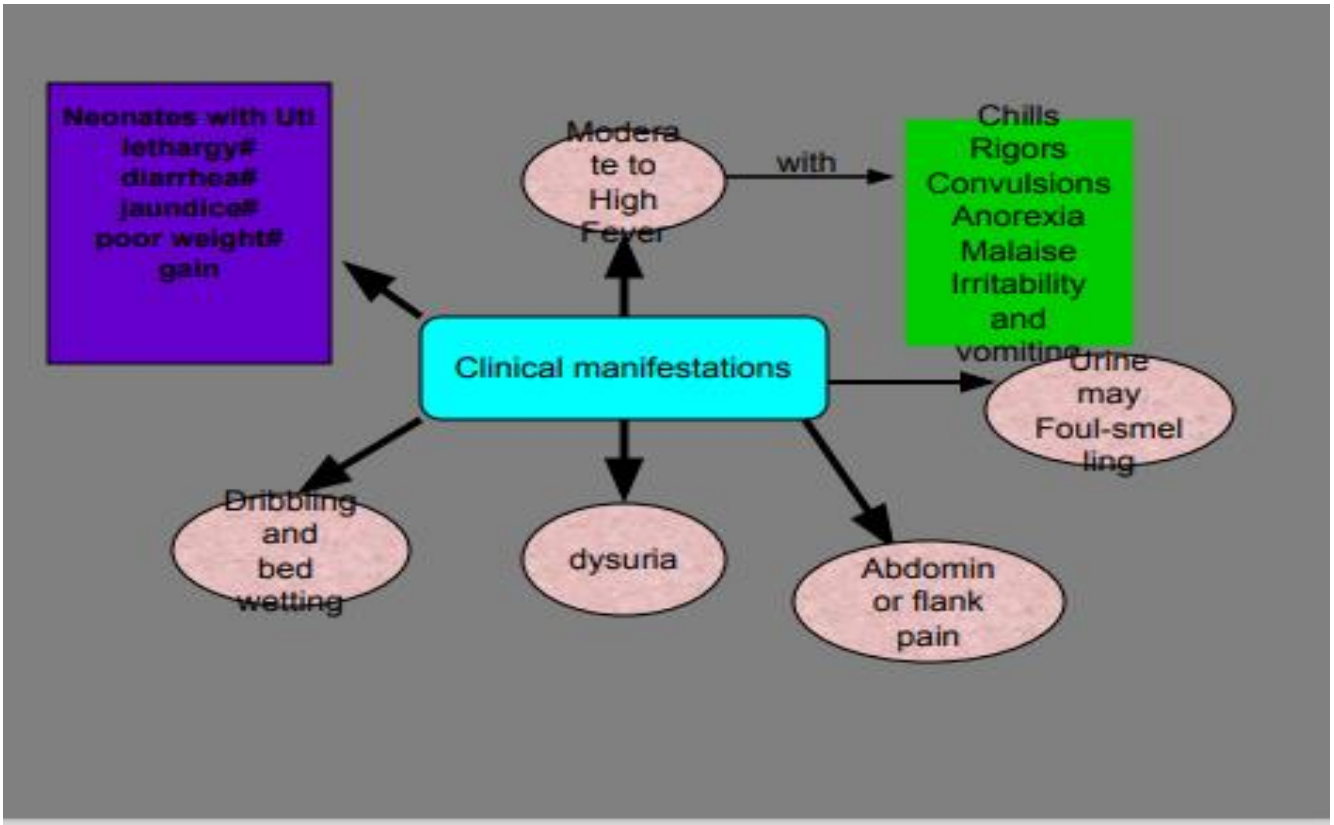
Alternative Names

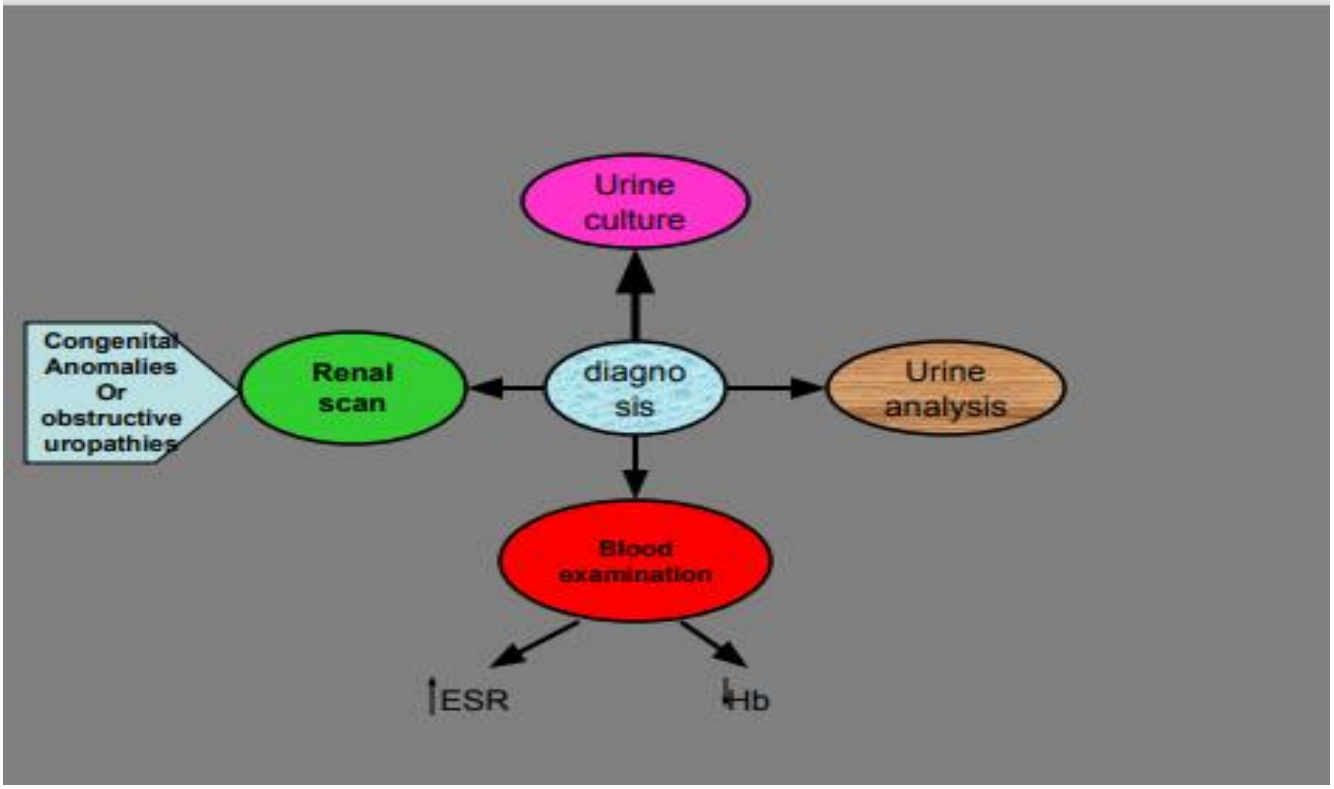
UTI - children; cystitis- is lower uti infection (urethra or bladder) ,Pyelonephritis – is upper uti that involves the ureters, renal pelvis

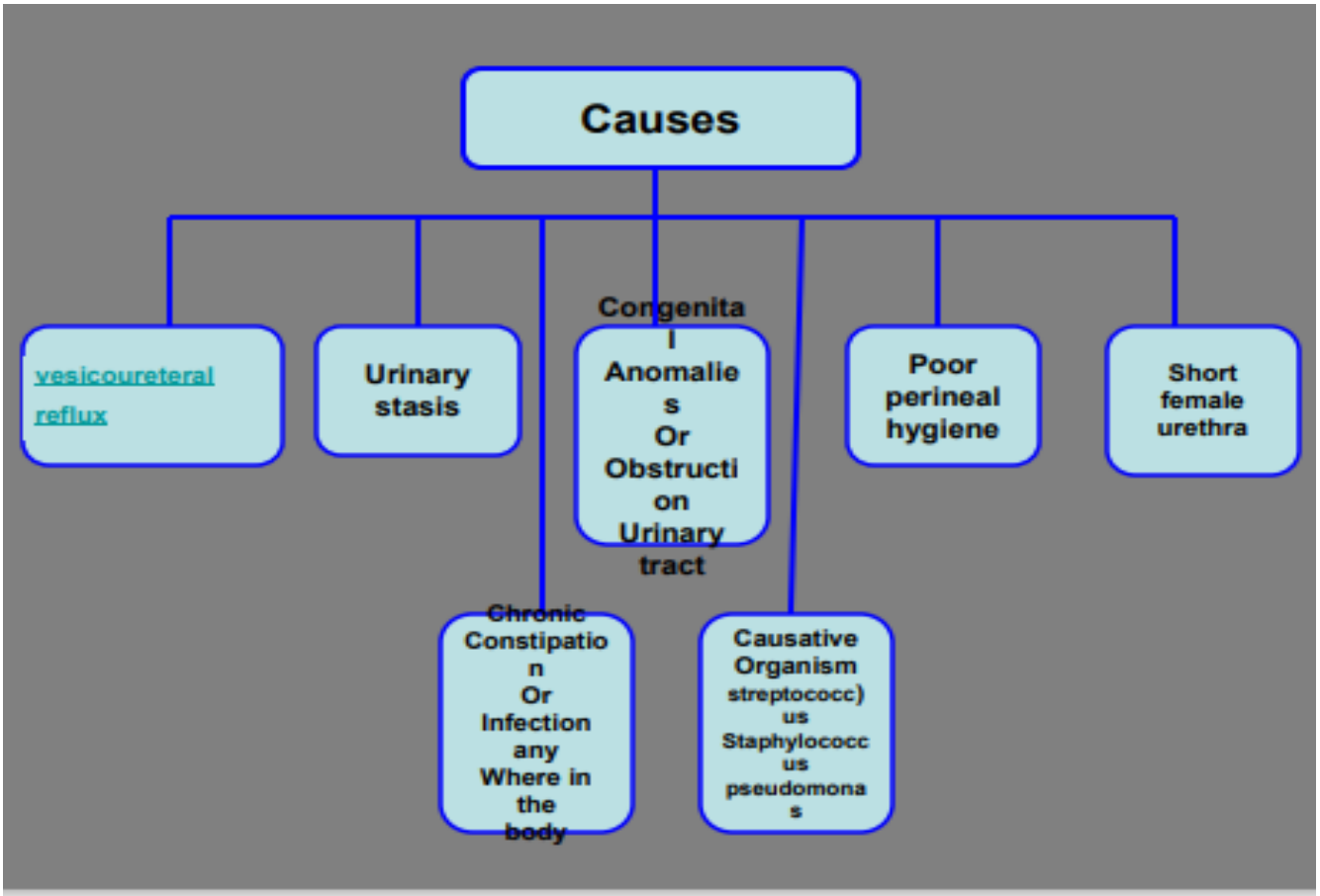
UTIs are more common in girls, especially around age 3 when they first begin toilet training. In boys who are not circumcised, the risk for UTIs is slightly higher before the first birthday

PATHOPHYSIOLOGY




Neonates with Uti
lethargy#
diarrhea#
jaundice#
poor weight#
gain
Modera
te to
High
Fever
with
Chills
Rigors
Convulsions
Anorexia
Malaise
Irritability
and
vomiting
Clinical manifestations
Urine
may
Foul-smel
ling
Dribbling
and
bed
wetting
dysuria
Abdomin
or flank
pain


Urine
culture
Congenital
Anomalies
Or
obstructive
uropathies
Renal
scan
diagno
sis
Urine
analysis
Blood
examination
ESR
Hb



Treatment

In children, UTIs should be treated quickly with antibiotics. Any child under 6 months old or who has other complications should see a specialist immediately.

Younger infants will usually stay in the hospital and be given antibiotics through a vein.

Older infants and children are treated with antibiotics by mouth. If this is not possible, they are admitted to the hospital where they are given antibiotics through a vein.

It is important that your child drink plenty of fluids during the time .they have a urinary tract infection

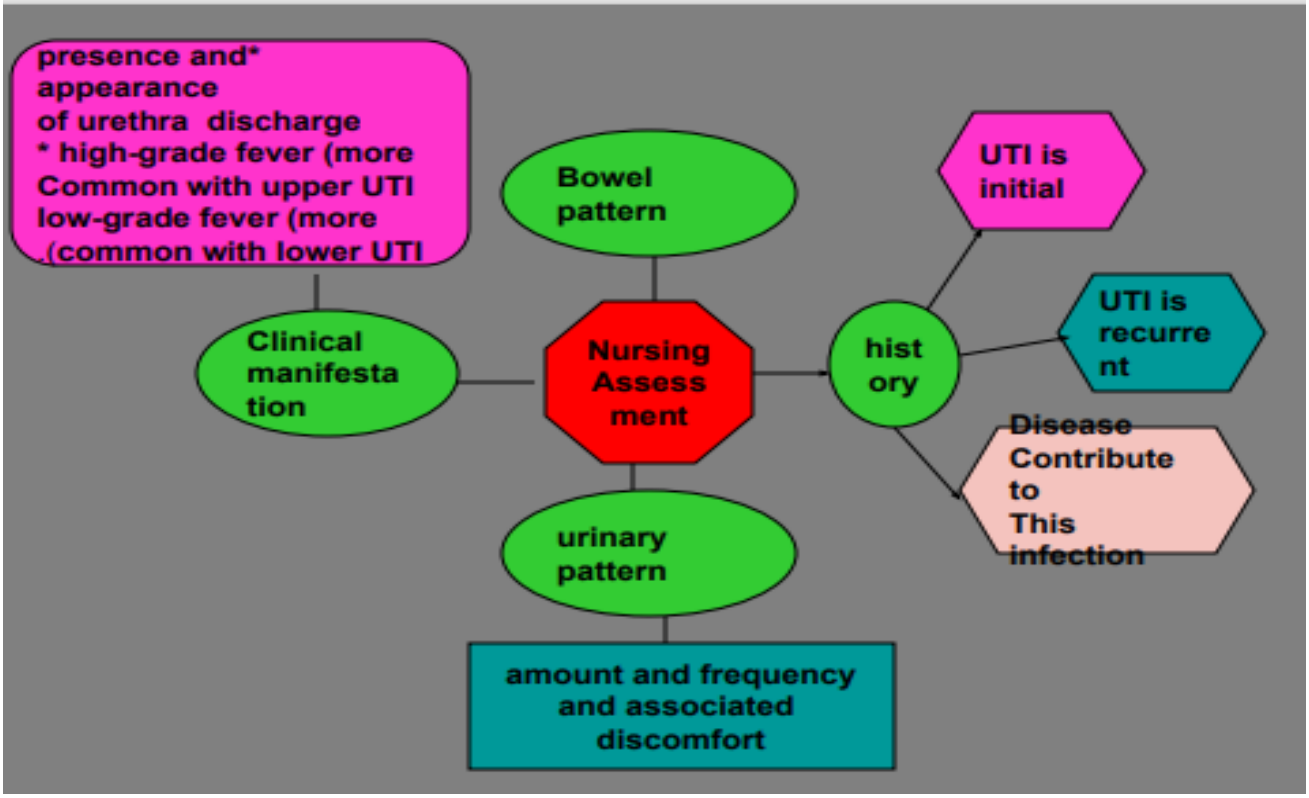
.

Complications

1-A tendency for recurrent infection exists

.

2-Children with obstructive lesions of the urinary tract and those with severe VUR are at highest risk for kidney damage. These patients may need prophylactic oral antibacterial .therapy



Family Education and Health Maintenance

1-Review long-term antibiotic therapy, if prescribed, to prevent recurrence of UTI. Schedules for prolonged therapy vary from several months to continuous prophylaxis.
2-Encourage scheduled follow-up visits because of the possibility of disease recurrence.
A-Emphasize that even though this disease may have few symptoms, it can lead to serious, permanent disability.
B-Advise family that subsequent suspected UTIs should be assessed and followed by health care provider.
3-Teach measures of prevention:
a-Minimize spread of bacteria from the anal and vaginal areas to the urethra in female children by cleansing the perianal area from the urethra back toward the anus.
B-Encourage adequate fluid intake, especially water.
C-Avoid carbonated and caffeinated beverages because of their irritative effect on bladder mucosa.
D-Encourage the child to void frequently and to empty the bladder completely with each voiding (double voiding).
.E-Encourage a high-fiber diet to avoid constipation

the preventive strategies for urinary tract infection?

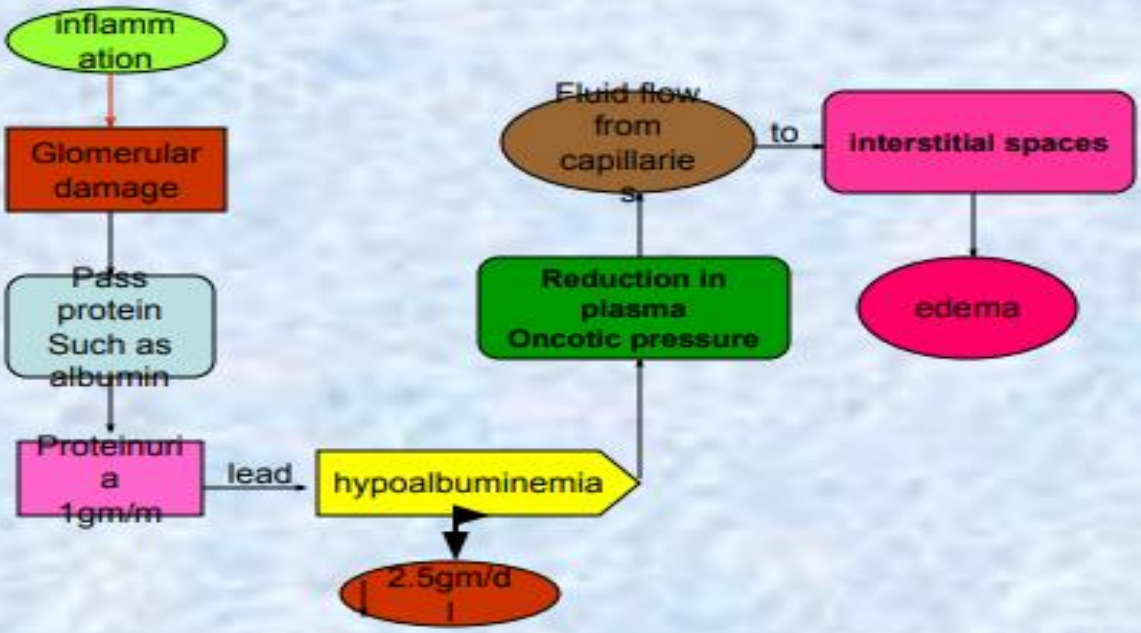
1- teach proper perineal hygiene
2- encourage the child to drink plenty of fluids and avoid long periods of holding urine
3-caution against tight underwear
4- encourage the child to void more frequently
5- discourage bubble bath and hot tubs which can irritate the urethra

Nephrotic syndrome

Nephrotic syndrome is a nonspecific disorder in which the kidneys is a nonspecific disorder in which the kidneys are damaged, causing them to leak large amounts of protein (at least 3 grams per day) from the blood grams per day) from the blood into the urine.

It is characterised by proteinuria (>3,5g/day), hypoalbuminemia, hyperlipidemia and edema.

Pathogenesis



Signs and symptoms of nephrotic syndrome include:

- **oliguria with dark, concentrated urine**
- **edema starting around the eyes (periorbital) and then becoming more generalized**
- **weight gain**
- **abdominal distention, which may be so severe that it causes respiratory**

difficulty, abdominal pain, anorexia, and diarrhea

- **irritability**
- **lethargy, easy fatigability, and activity intolerance**

-Striae may appear on the skin from overstretching

- **pallor**

..• hypertension (in later stages)

What tests tell you

Urinalysis shows severe proteinuria, hematuria, and casts; it also .shows an elevated specific gravity because of the proteinuria

When performed, renal biopsy identifies the type of nephrotic syndrome the child has and can be used to monitor response to .medical management

Highs and lows

:Blood studies show

high levels of lipids, especially cholesterol (hypercholesterolemia) •
low levels of protein, especially albumin •
normal to high hematocrit and hemoglobin level •
.high platelet levels •

Complications

:Complications of nephrotic syndrome may include

hypovolemic shock •
venous thrombosis •
respiratory difficulties •
impaired skin integrity from severe edema •
infection •
loss of proteins required to fight infections, resulting in increased • risk of infections
loss of proteins that prevent blood from clotting, resulting • in clot formation within the blood vessels
adverse effects of steroid therapy •

Nursing Care Plans

Nursing care planning for a client with nephrotic syndrome include relief from edema, enhance nutritional status, conserve energy, supply sufficient information about the disease, importance of strict compliance with the medication and nutritional therapy, .and absence of infection or prevention of a relapse

Here are five (5) nursing care plansHere are five (5) nursing care plans and nursing diagnosis for :Nephrotic Syndrome

Excess Fluid Volume
Imbalanced Nutrition: Less Than Body Requirements
Fatigue
Deficient Knowledge
Risk For Infection

Excess Fluid Volume
Nursing Diagnosis
Excess Fluid Volume
May be related to
Decreased kidney function
Fluid accumulation
Possibly evidenced by
Pitting edema
Periorbital and facial puffiness in morning and dependent in the evening
,Abdominal ascites
Scrotal or labial edema
Edema of mucous membranes of intestines
Anasarca
Slow weight gain
Decreased urine output
Desired Outcomes
.Child's edema will be decreased
.Child will achieve ideal body weight without excess fluids

ACUTE GLOMERULONEPHRITIS

Acute glomerulonephritis is a broad term used to describe several disease processes that result in glomerular injury. The glomerular injury is the result of antigen-antibody deposits within the glomeruli. It occurs most frequently in school-age children, is rare in children younger than age 2, and occurs more frequently in males than in females 2:1

Clinical Manifestations

Onset

Usually 10 to 20 days after acute pharyngitis.-1
In streptococcal skin infections, the latency
.period may be as long as 6 weeks
May be abrupt and severe, or mild and-2
.detected only by laboratory measures

Signs and Symptoms

Urinary symptoms-1

a. Decreased urine output
b. Bloody or brown-colored urine

Edema-2
a. Present in most patients
b. Usually mild
c. Commonly manifested by periorbital edema in the morning
d. May appear only as rapid weight gain
e. May be generalized and influenced by posture
3-Hypertension
a. Present in more than 50% of patients
b. Usually mild
c. Rise in blood pressure (BP) may be sudden
d. Usually appears during the first 4 to 5 days of the illness
4-Malaise
5-Mild headache
6-GI disturbances, especially anorexia and vomiting

Diagnostic Evaluation

1- Urinalysis
a. Decreased output (oliguria)—may approach anuria
b. Microscopic or gross hematuria
c. Specific gravity—moderately elevated
d. Proteinuria may be mild to severe
e. Microscopic—red blood cells, leukocytes, epithelial cells, and casts
f. Low urinary sodium

Management

1-Antibiotic therapy may be initiated if there is any concern that streptococci or other organisms are still present.
2-Other management is mostly symptomatic; in most patients, spontaneous recovery is expected. Hospitalization is usually not necessary.
3-Salt and fluid intake should be restricted during the acute phase of the disease.
4-Diuretics should be administered if significant edema or hypertension develops.
5-A renal biopsy may be indicated if the child does not recover from apparent acute .poststreptococcal glomerulonephritis

glomerulonephritis is directed toward the excretion of excess fluid through urination, participate in an activity within tolerance, preventing infection, and absence of complication

Here are four (4) nursing care plansHere are four (4) nursing care plans and nursing diagnosis for Acute Glomerulonephritis:

Excess Fluid Volume
Activity Intolerance
Risk for Injury
Risk for Infection

Nursing Diagnosis

- Excess Fluid Volume

May be related to

- Decrease in regulatory mechanisms (renal failure) with the potential of water.

Possibly evidenced by

- Altered electrolytes
- Crackles and pleural effusion
- Decreased urinary output
- Dependent edema
- Moderate blood pressure increases
- Intake greater than output
- Periorbital edema
- Pleural effusion
- Puffiness in the face
- Weight gain

Desired Outcomes

- Child will have a normal fluid balance as evidenced by absence of edema, vital signs within the client normal limit, and balanced fluid intake and output.

Nursing Interventions	Rationale
Monitor vital signs every 4 hours; notify any significant changes	An assessment provides baseline information for monitoring changes and evaluating the effectiveness of therapy
Auscultate breath sounds for the presence of crackles. Observe for increased work of breathing, cough, and nasal flaring	Crackles upon auscultation indicate a fluid accumulation resulting in pulmonary congestion
Weigh the child on the same scale at the same time daily. Monitor intake and output accurately	Weight gain results from fluid retention; Accurate measurement of intake and output helps assess fluid balance
Measure and record abdominal girth daily	Edema normally observed in the abdomen which may increase as the condition progresses
Administer diuretics as prescribed	Decreases plasma volume and edema by causing diuresis
Instruct parents to maintain fluid restrictions as indicated	The amount of fluid allowed to take depends on the level of kidney function
Assist the child to do position changes every 2 hours	Frequent position change lessens pressure on body parts and prevents the accumulation of fluid in the dependent areas
Elevate edematous body part while the child is in bed or sitting in a chair	Helps move fluid away from dependent body parts through gravity
Explain to the child (as appropriate) and family about acute glomerulonephritis, including its signs and symptoms, diagnostics, and management	Provides an understanding of the disease which increases compliance with the treatment regimen
Refer to a dietician for a consultation to develop a meal plan low in sodium, potassium, and protein that includes preferred foods as allowed	A proper diet plays a vital part in controlling the symptoms, maintaining nutrition and in the management of the disease

Nursing Interventions	Rationale
Assess temperature, chills, sore throat, .cough (presence or recurrence)	Reveals persistence of streptococcal .infection
Obtain throat culture for analysis and .sensitivities	Identifies streptococcal microorganism and .sensitivity to specific antibiotic therapy
Administer antibiotic therapy to the child .and to family members if ordered	Destroys microbial agents by preventing cell wall synthesis and prevents transmission to .family members
.Provide proper disposal articles	Prevents transmission of microorganisms to .others or reinfection
Instruct parents about the importance of .taking the full course of antibiotic therapy	Promotes parental understanding and prevents the development .of super-infection
Instruct child and family to do handwashing after sneezing/coughing .and to properly disposed material	.Prevents transfer of disease
Instruct parents to avoid exposure of the child to others with an existing upper .respiratory infection	Avoids respiratory infections in the .susceptible child
Instruct parents to notify health care provider if fever, cough, sore throat is .present	Indicates infection and provides for early .intervention

Complications

1-Hypertensive encephalopathy
2-Heart failure
3-Uremia
4-Anemia

نشاط اسئلة عن المحاضرة 6+7

اسم النشاط	اسئلة عن المحاضرة السابقة (6+7)
الهدف من النشاط	تنشيط ذاكرة الطلبة وتشجيعهم على المراجعة
ادوات تنفيذ النشاط	جهاز عرض
الية التنفيذ	اختيار طلاب بشكل عشوائي للرد على الاسئلة المعروضة
مدة النشاط	10 دقائق

الاسئلة على جهاز العرض

- What are the types of UTI?
- Classification the disease of urinary system in pediatric?

النشاط 2/2 الاسئلة المتعددة الخيارات

Multiple choice questions (MCQ);

4- Nephrotic syndrome characterized by:
- d- proteinuria
- e- cough
- f- hematuria

5- signs and symptoms of glomerulonephritis are:
- d- fever
- e- DVD
- f- edema

6- UTI is considering:
- d- UUD
- e- LUD
- f- combined

المحاضرة 8+9

Part 5: Child with Gastrointestinal Dysfunction

- Gastroenteritis
- Cleft lip and palate
- Pyloric stenosis
- Hirschsprung disease
- Imperforated anus
- Intussusception
- Celiac disease

الاسبوع 8+9: 360 دقيقة

اهداف المحاضرة:

Overview of Gastrointestinal anatomy

- Gastroenteritis
- Cleft lip and palate
- Pyloric stenosis
- Hirschsprung disease
- Imperforated anus
- Intussusception
- Celiac disease
- Nursing role

يتوقع نهاية لمحاضرة ان يكون الطالب قادر على:

By the end of the lecture, the student should be able to;

- identify of Gastrointestinal anatomy
- identify Gastroenteritis
- identify Cleft lip and palate
- identify Pyloric stenosis
- identify Hirsch sprung disease
- identify Imperforated anus
- identify Intussusception
- identify Celiac disease
- apply Nursing role

الاساليب والانشطة والوسائل المستخدمة

م	الاساليب والانشطة	الوسائل
8+9	نشاط اسئلة عن المحاضرة 8+9 محاضرة مناقشة سؤال وجواب نشاط متعدد الخيارات(2/2)	جهاز حاسوب جهاز عرض سبورة واقلام

خطة اجراءات تنفيذ المحاضرة

المحاضرة	الاجراءات	الزمن بالدقيقة
8+9	موجز عن ماقدم بالمحاضرة السابقة وسؤال وجواب عنها	10
	معرفة اولية عن المحاضرة الحالية	10
	سؤال شفهي للطلاب بشكل عشوائي لتقيم معرفتهم الاولية	10
	القاء محاضرة باستخدام جهاز العرض والسبورة	100
	عرض فديوتوضيحي	10
	استراحة	10
	نشاط متعدد الخيارات (2/2)	10
	مناقشة النشاط المتعدد الخيارات وكيفية حلها	10
	عرض موضوع واهداف المحاضرة الثانية للاسبوع الثاني	10
	المجموع	**2*180**

المادة العلمية

Types of GIT anomalies:

- Cleft lip & or palate
- hypertrophic pyloric stenosis
- intussusception
- hirschprung`s disease
- intestinal atresia
- malrotation & volvulus
- anorectal malformation
- gastoschisis
- omphalocele
- tracheal esophageal atresia

Intestinal Obstruction

- Partial or complete blockage in the small or large intestines that prevents forward flow of digestive products caused by tumors, twisting of the intestines, scar tissue, etc.
- S/S
  - Abdominal pain, vomiting
  - Lack of bowel sounds
- Tx
  - Insertion of an intestinal tube
  - Surgery

Assessment

- Failure to pass meconium
- Ribbon Like stools
- Vomiting
- Reluctance to feed
- Abdominal distention
- Foul odor of breath

Causes of Gastrointestinal Obstruction

- **COLON**

✓ Congenital

1. Meconium plug
2. Hirschsprung disease
3. Colonic atresia, stenosis
4. Imperforate anus
5. Rectal stenosis
6. Pseudo- obstruction
7. Volvulus
8. Colonic duplication

✓ Acquired

1. Ulcerative colitis (toxic megacolon)
2. Chagas disease
3. Crohn disease
4. Fibrosing colonopathy (cystic fibrosis)

Cleft Lip

Opening between the nose and lip

- Apparent at birth
- Should be documented during newborn assessment
- Assess child's ability to suck and swallow
- Cleft lip repair is performed during *first month of life*
- Special feeding techniques if surgery is delayed

Cleft Lip

Feeding a Child before Cleft Lip Repair

- Bottle with special nipple – longer and narrower
- Hold infant in upright position
- Large cross-cut hole in nipple to allow the child to get food into back of throat without strong sucking
- Stimulate sucking by rubbing nipple on infant's lower lip
- Allow child to swallow and burp frequently
- **ESSR method** – Enlarge nipple, Stimulate sucking, Swallow, Rest

Cleft Palate

Surgical Repair

- usually 9 - 18 months
- perform closure prior to speech
- after weaned to cup

Post-op Care

- keep on abdomen till fully awake
- semi-liquid, puree diet
- no sucking
- elbow restraints
- keep suture line clean after feeding with water

What causes of cleft lip and cleft palate?

- The exact cause of cleft lip and cleft palate is **not completely understood**.
- Cleft lip and/or palate are caused by **multiple genes inherited from both parents,**
- **Environmental factors** that scientists do not yet fully understand.

Cleft Palate

- Repaired surgically between ***6 months to 2 years prior to talking***
- Parents will care for child at home until surgical repair
- Altered dentition and speech dysfunction may also occur
- Frequent episodes of otitis media
  - (due to opening into nasopharynx)

Pre-Op Nursing Care

- What are problems that the nurse needs to be alert for during feedings?
  - Lack of proper seal around nipple to create necessary suction
  - Excessive air intake
- Use of special feeding techniques
  - Feeder with compressible sides
  - Syringes with tubing

Pyloric Stenosis

- More common in boys.
- Genetic link, (strongly maternal)

+S

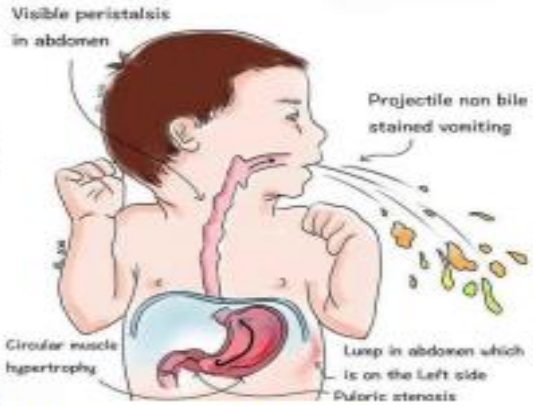
- Presents in first 2 months of life.
- Projectile Vomiting of stomach contents (no bile, soon after feeds.
- Very hungry baby, even after being fed
- ↓weight/weight gain
- Epigastric/LUQ mass (olive mass)
- Visible Peristalsis
- Hypochloraemic alkalosis
- ↓ serum potassium
- Dehydration
- Constipation

- Hyperplasia and hypertrophy of the circular and longitudinal muscle layers in pylorus.
- This leads to narrowing of pyloric lumen.

- Good history and examination.
- If dehydrated, rehydrate before investigating
- Bloods (FBC, glucose, U+E.).
- ABG .
- Test feed.
- Ultrasound.
- Barium meal (rare) will show 'shoulder sign'.

- Treat any fluid balance
- Insert Nasogastric tube
- Ramstedt's Pyloromyotomy
  - muscle is cut but not mucosa
  - can be done open (RUQ transverse incision), laparoscopically, or umbilically
- Medical treatment with atropine sulphate showing promising results.

Pyloric Stenosis



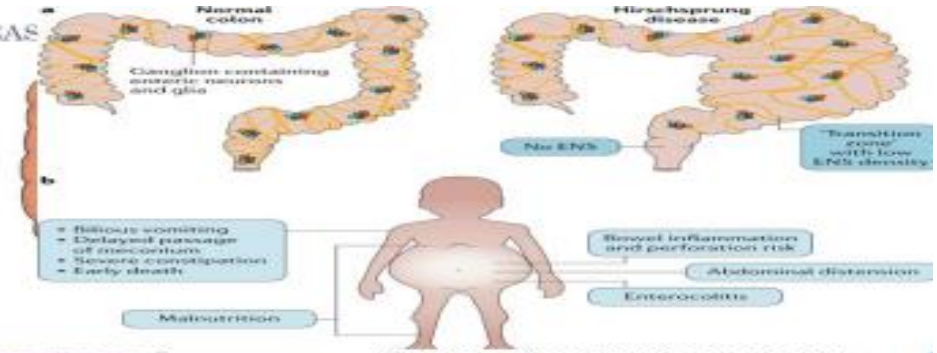
- History: 2nd - 8th week of life
- Projectile, frequent episodes of non-bilious vomiting 30-60 minutes after feeding
- Weight loss
- Persistent hunger
- Jaundice (2%)- due to decreased hepatic glucoronosyl transferase associated with starvation

Pathophysiology

- Diffuse hypertrophy and hyperplasia of the smooth muscle of the antrum of the stomach and pylorus proper narrow the channel, which then become easily obstructed.
- Gastritis, hematemesis and dehydration
- Hypokalemic, hypochloremic, metabolic alkalosis.

HIRSCHSPRUNG DISEAS

- Also called *congenital aganglionic megacolon*
- Mechanical obstruction from inadequate motility of intestine
- Incidence: 1 in 5000 live births; more common in males and in Down syndrome
- Absence of ganglion cells in colon



Hirschsprung disease ♂

Congenital agenesis of ganglion cells of distal colon

•Hirschsprung's disease (aganglionic megacolon) is a congenital anomaly caused by migratory failure of neural crest cells leading to abnormal innervations of the bowel.

•The defect begins in the internal anal sphincter and extends proximally for a variable length of gut.

Clinical
- **Failure to pass meconium**
- Constipation/intermittent loose stool
- Bilious vomiting, poor PO intake, abdominal distension
- Enterocolitis (**toxic megacolon**) complication

Diagnosis
- Rectal biopsy (gold standard)
- Contrast enema (presence of transition zone)

Management
- Surgical excision of aganglionic segment
- Colostomy with subsequent end-to-end anastomosis

Surgical management:
1- colostomy
2- pull through (remove aganglionic site + closure colostomy)

ANORECTAL MALFORMATIONS

- Signs & Symptoms:
  - Rectal atresia (closure) and stenosis (constriction or narrowing of a passage)
- Complications:
  - Depends on the defect and accompanying multisystem involvement
- Nursing Care:
  - Extensive treatment depending on defect and associated organ involvement
  - Preoperative care (caregiver education & IV fluids)
  - Postoperative care (pain control, s/s of infection, good skin care, NG tube, oral feedings resumed)
  - Discharge instructions

Surgical management:
1- colostomy
2- anoplasty
3- closure colostomy

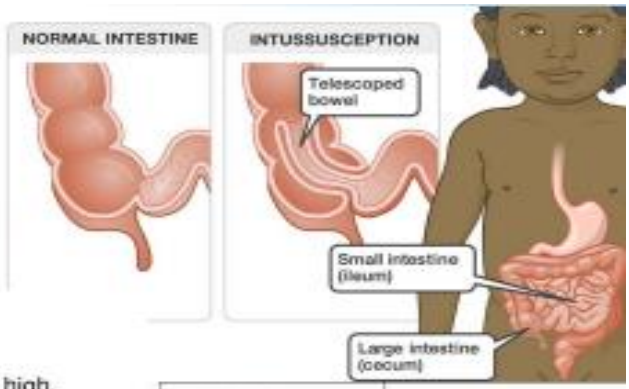
Clinical manifestation

- No anal opening observed during newborn examination
- A finger or thermometer can not be inserted into the rectum
- Absence of meconium ,vomiting
- Abdominal distension after 2to 3 days of life
- In rectoperineal or rectovaginal fistula meconium is passed . Associated genitourinary ,GIT and cardiac anomalies increase the mortality rate .

Intussusception

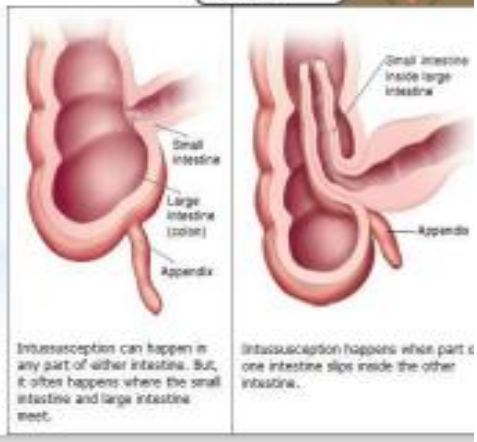
Clinical Manifestations:

- Sudden onset of abdominal pain in a healthy child
- Child screams and draws knees up to abdomen
- Pain is intermittent, child is relaxed between pain intervals - paroxysmal
- Vomiting occurs and increases over time
- Stool changes from brown to blood-tinged and mucousy - "currant jelly" in 50% of cases



Management

- When the clinical index of suspicion for intussusception is high, hydrostatic reduction by contrast agent or air enema is the diagnostic and therapeutic procedure of choice.
- Contraindications to this study include the presence of peritonitis or hemodynamic instability.
- Further, an intussusception that is located entirely within the small intestine is unlikely to be reached by enema and more likely to have an associated lead point. Hydrostatic reduction using barium has been the mainstay of therapy; however, more recently, the use of air enema has become more widespread.
- Successful reduction is accomplished in more than 80% of cases and is confirmed by resolution of the mass, along with reflux of air into the proximal ileum.
- To avoid radiation exposure altogether, intussusception reduction by saline enema under ultrasound surveillance may be employed.
- Recurrence rates after hydrostatic reduction are about 11% and usually occur within the first 24 hours. Recurrence is usually managed by another attempt at hydrostatic reduction. A third recurrence is usually an indication for operative management.



Post operative care

- Recovery of anesthesia
  1. Position
  2. Monitoring
  3. Observation of lines
- Ward care
  1. Same vital signs.
  2. Care of drains.
  3. Surgical nutrition
  4. Medications
  5. Physiotherapy

NURSING MANAGEMENT

- **Nursing Diagnoses**

A. Risk for **Fluid Volume Deficit** related to blood loss and effects from anesthesia
B. Altered **Urinary Elimination** related to birth trauma
C. Colonic **Constipation** related to physiologic changes from birth
D. Risk for **Infection** related to birth process
E. **Fatigue** related to labor
F. **Pain** related to perineal discomfort from birth trauma, hemorrhoids, and physiologic changes from birth
G. Altered **Health Maintenance** related to lack of knowledge of postpartum care
H. Altered **Health Maintenance** related to lack of knowledge of newborn care
I. Ineffective **Breastfeeding** related to lack of knowledge and inexperience

Role of the Nurse

A. Preoperative care

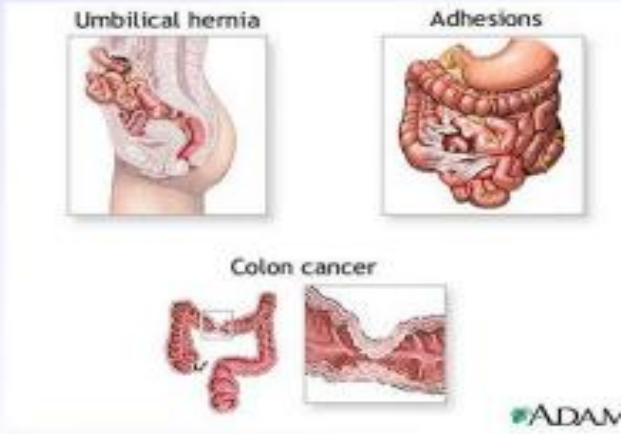
- Administer diet appropriate to age
- Modify feeding techniques to adjust to defect
- Hold child in upright position
- Use special feeding nipple
- Convey attitude of acceptance of infant and family
- Describe results of surgical correction
- Use photograph of satisfactory results
- Arrange meeting with other situation and coped successfully
- Explain the immediate and long range problem

b. Post operative care

- Physical post operative care is includes .NPO .IV.NG ,suction ,frequent abdominal dressing changes & perennial dressing change
- The diaper should be placed below the dressing changes
- Drainage from NG tube and colostomy is measured
- The nurse emphasizes the expected changes in the appearance of the stoma ,which initially is large ,protruding & red ,since the stoma site appears painful . It is important to stress that bowel mucosa in non sensitive but that surrounding abdominal skin must be protected

Intestinal Obstruction

- Partial or complete blockage in the small or large intestines that prevents forward flow of digestive products caused by tumors, twisting of the intestines, scar tissue, etc.
- S/S
  - Abdominal pain, vomiting
  - Lack of bowel sounds
- Tx
  - Insertion of an intestinal tube
  - Surgery



Causes of Gastrointestinal Obstruction

- **COLON**

✓ **Congenital**

1. Meconium plug
2. Hirschsprung disease
3. Colonic atresia, stenosis
4. Imperforate anus
5. Rectal stenosis
6. Pseudo- obstruction
7. Volvulus
8. Colonic duplication

✓ **Acquired**

1. Ulcerative colitis (toxic megacolon)
2. Chagas disease
3. Crohn disease
4. Fibrosing colonopathy (cystic fibrosis)

Cleft Lip

Opening between the nose and lip

- Apparent at birth
- Should be documented during newborn assessment
- Assess child's ability to suck and swallow
- Cleft lip repair is performed during *first month of life*
- Special feeding techniques if surgery is delayed

What are the symptoms of cleft lip and cleft palate?

- The symptoms of these abnormalities are visible during the **first examination** of the infant by your child's physician.
- Although the degree of the abnormality can vary, the abnormality can be seen upon **inspection**, as there is an **incomplete closure of either the lip, roof of the mouth**, or **both.**

Cleft Lip

Feeding a Child before Cleft Lip Repair

- Bottle with special nipple – longer and narrower
- Hold infant in upright position
- Large cross-cut hole in nipple to allow the child to get food into back of throat without strong sucking
- Stimulate sucking by rubbing nipple on infant's lower lip
- Allow child to swallow and burp frequently
- **ESSR method** – Enlarge nipple, Stimulate sucking, Swallow, Rest

Cleft Lip

- **Surgery for Cleft Lip Repair**
  - Usually done early (first few days to 1st month of life) to improve parental bonding and improve feeding
  - Plastic surgery with a staggered suture line (often in shape of letter "Z" to minimize scarring)
  - After surgery Logan Bar over child's mouth to reduce tension on suture line

Logan Bar

Cleft Palate

- Repaired surgically between ***6 months to 2 years prior to talking***
- Parents will care for child at home until surgical repair
- Altered dentition and speech dysfunction may also occur
- Frequent episodes of otitis media
  - (due to opening into nasopharynx)

Pre-Op Nursing Care

- What are problems that the nurse needs to be alert for during feedings?
  - Lack of proper seal around nipple to create necessary suction
  - Excessive air intake
- Use of special feeding techniques
  - Feeder with compressible sides
  - Syringes with tubing

Role of the Nurse

B. Postoperative care

- Position on back or side (on abdomen for cleft palate) to allow for mucus drainage (*Partial side –lying position , semi –flower position*)
- Maintain lip protective device
- Use non traumatic feeding techniques
- Retrsain arms to prevent access to operative site then remove restraints periodically while supervised
- Avoid placing objects in the mouth following cleft plate repair (suction catheter , tongue depressor , small spoon)
- Prevent vigorous & sustained crying

Cleft Palate

- Surgical Repair
  - usually 9 - 18 months
  - perform closure prior to speech
  - after weaned to cup
- Post-op Care
  - keep on abdomen till fully awake
  - semi-liquid, puree diet
  - no sucking
  - elbow restraints
  - keep suture line clean after feeding with water

3. Esophageal Atresia

- The esophagus instead of being an open tube from the throat to the stomach is closed at some point. A fistula is common between the trachea and esophagus.

Clinical manifestation

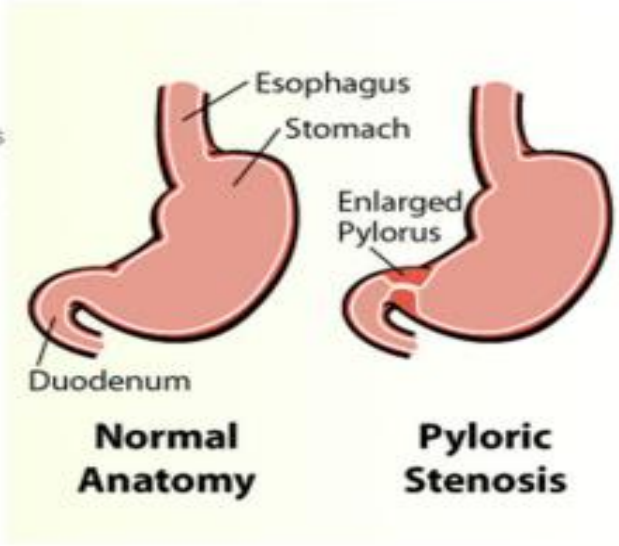
- Excessive salivation.
- Coughing, choking, cyanosis,
- Apnea
- Abdominal distention.

Esophageal Atresia and Tracheoesophageal Fistula

- Signs and symptoms
  - Frothing and bubbling at mouth/nose
  - Excessive drooling/salivation
  - Coughing, cyanosis, and respiratory distress
- Nursing care
  - Maintain patent airway
  - Prevent aspiration (no oral feedings)
- After corrective surgery
  - Monitor vital signs
  - Maintain chest tubes/intubation
  - Provide parental nutrition, then oral feedings
  - Prevent infection

Pyloric Stenosis

- The classic presentation of IHPS is the three- to six-week-old baby who develops immediate postprandial, non-bilious, often projectile vomiting and demands to be re-fed soon afterwards (a "hungry vomiter").
- In the past, patients were classically described as being emaciated and dehydrated with a palpable "olive-like" mass at the lateral edge of the rectus abdominus muscle in the right upper quadrant of the abdomen.



Pyloric Stenosis

- Risk factors: first born white male, erythromycin use in pregnancy
- Age: 2-6 weeks
- History: nonbilious projective vomiting shortly after feeds
- Physical: palpable “olive” epigastric area
- Labs: hypochloremic hypokalemic metabolic alkalosis
- Imaging: abdominal ultrasound
- Tx: resuscitation, correct electrolytes
- Operation only after medical stabilization

INTUSSUSCEPTION

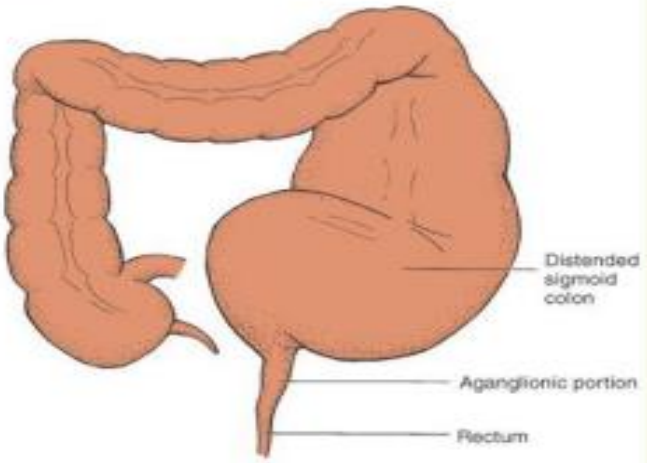
- Intussusception (in-tuh-suh-SEP-shun) is the most common abdominal emergency affecting children under 2 years old. It happens when one portion of the bowel slides into the next, much like the pieces of a telescope.
- When this "telescoping" happens, the flow of fluids and food through the bowel can become blocked, the intestine can swell and bleed, and the blood supply to the affected part of the intestine can get cut off. Eventually, this can cause part of the bowel to die.
- Intussusception happens in 1 to 4 out of every 1,000 infants and is most common in babies 5 to 9 months old, though older children also can have it. Boys get intussusception more often than girls.

Intussusception

- Clinical Manifestations:
  - Sudden onset of abdominal pain in a healthy child
  - Child screams and draws knees up to abdomen
  - Pain is intermittent, child is relaxed between pain intervals - paroxysmal
  - Vomiting occurs and increases over time
  - Stool changes from brown to blood-tinged and mucousy - "currant jelly" in 50% of cases

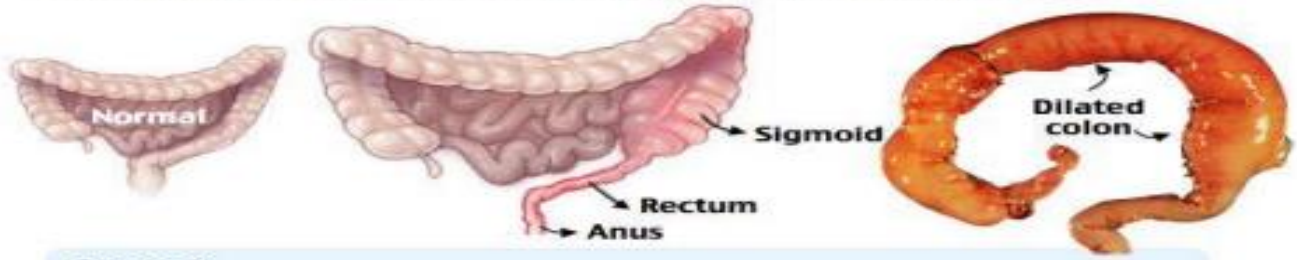
HIRSCHSPRUNG DISEASE

- Also called *congenital aganglionic megacolon*
- Mechanical obstruction from inadequate motility of intestine
- Incidence: 1 in 5000 live births; more common in males and in Down syndrome
- Absence of ganglion cells in colon



Hirschsprung disease ♂

Congenital agenesis of ganglion cells of distal colon



Clinical
- **Failure to pass meconium**
- Constipation/Intermittent loose stool
- Bilious vomiting, poor PO intake, abdominal distension
- Enterocolitis (**toxic megacolon**) complication

Diagnosis
- Rectal biopsy (gold standard)
- Contrast enema (presence of transition zone)

Management
- Surgical excision of aganglionic segment
- Colostomy with subsequent end-to-end anastomosis

ANORECTAL MALFORMATIONS

- Signs & Symptoms:
  - Rectal atresia (closure) and stenosis (constriction or narrowing of a passage)
- Complications:
  - Depends on the defect and accompanying multisystem involvement
- Nursing Care:
  - Extensive treatment depending on defect and associated organ involvement
  - Preoperative care (caregiver education & IV fluids)
  - Postoperative care (pain control, s/s of infection, good skin care, NG tube, oral feedings resumed)
  - Discharge instructions

Clinical manifestation

- No anal opening observed during newborn examination
- A finger or thermometer can not be inserted into the rectum
- Absence of meconium ,vomiting
- Abdominal distension after 2to 3 days of life
- In rectoperineal or rectovaginal fistula meconium is passed . Associated genitourinary ,GIT and cardiac anomalies increase the mortality rate .

\

Role of the Nurse

A. Preoperative care

- Administer diet appropriate to age
- Modify feeding techniques to adjust to defect
- Hold child in upright position
- Use special feeding nipple
- Convey attitude of acceptance of infant and family
- Describe results of surgical correction
- Use photograph of satisfactory results
- Arrange meeting with other situation and coped successfully
- Explain the immediate and long range problem

NURSING MANAGEMENT

- Post-operative-
  - Patient adaptation-ADL's in 6-8 weeks, no heavy lifting, psychological support, identify coping mechanism
  - Colostomy care
    - Assess stoma and surrounding skin
      - Pink stoma-healthy; pale- anemic; dusky blue-necrotic
      - Mild to moderate swelling- till 2-3 weeks is normal; moderate to severe swelling-obstruction of stoma
      - Small amount of oozing-normal; moderate to large bleeding-coagulation problem or or GI bleed

نشاط اسئلة عن المحاضرة 8+9

اسم النشاط	اسئلة عن المحاضرة السابقة (8+9)
الهدف من النشاط	تنشيط ذاكرة الطلبة وتشجيعهم على المراجعة
ادوات تنفيذ النشاط	جهاز عرض
الية التنفيذ	اختيار طلاب بشكل عشوائي للرد على الاسئلة المعروضة
مدة النشاط	10 دقائق

الاسئلة على جهاز العرض

- What Are the Types of CLEFT LIP AND PALATE?
- Classification the disease of gastrointestinal system in pediatric?

النشاط 2/2 الاسئلة المتعددة الخيارات

Multiple choice questions (MCQ);

1- **PYLORIC STENOSIS Characterized by:**
   a) Projectile vomiting
   b) Bile stain
   c) wasting
2- **signs and symptoms of imperforated anus are:**
   a) no meconium
   b) vomiting
   c) DVD
   d) edema
3- **intussusption is considering:**
   a) UGD
   b) LGD
   c) combined

المحاضرة 10+11

Part 6: child with blood dysfunction

- Iron deficiency anemia
- Thalassemia
- Hemophilia
- Sickle cell anemia
- Glucose 6 phosphate dehydrogenase

الاسبوع 10+11: 360 دقيقة

اهداف المحاضرة:

Overview of blood component anatomy

- Known Iron deficiency anemia
- Known Thalassemia
- Known Hemophilia
- Known Sickle cell anemia
- Known Glucose 6 phosphate dehydrogenase

يتوقع نهاية لمحاضرة ان يكون الطالب قادر على:

By the end of the lecture, the student should be able to;

- identify of blood component anatomy
- identify Iron deficiency anemia
- identify Thalassemia
- identify Hemophilia
- identify Sickle cell anemia
- identify Glucose 6 phosphate dehydrogenase
- apply Nursing role related to blood diseases

الاساليب والانشطة والوسائل المستخدمة

م	الاساليب والانشطة	الوسائل
11+10	نشاط اسئلة عن المحاضرة 10-11 محاضرة مناقشة سؤال وجواب نشاط متعدد الخيارات(2/2)	جهاز حاسوب جهاز عرض سبورة واقلام

خطة اجراءات تنفيذ المحاضرة

المحاضرة	الاجراءات	الزمن بالدقيقة
10-11	موجزعن ماقدم بالمحاضرة السابقة وسؤال وجواب عنها	10
	معرفة اولية عن المحاضرة الحالية	10
	سؤال شفهي للطلاب بشكل عشوائي لتقيم معرفتهم الاولية	10
	القاء محاضرة باستخدام جهاز العرض والسبورة	100
	عرض فديوتوضيحي	10
	استراحة	10
	نشاط متعدد الخيارات (2/2)	10
	مناقشة النشاط المتعدد الخيارات وكيفية حلها	10
	عرض موضوع واهداف المحاضرة الثانية للاسبوع الثاني	10
	المجموع	**2*180**

المادة العلمية

Hematology (Blood diseases)

Blood disorders are conditions that impact the blood's ability to function correctly.

There is a range of different types and symptoms depend on the type. However, some common symptoms include unexplained fatigue and weight loss.

What is a blood disorder?

A blood disorder can affect one or more components of the blood.

Many blood disorders take their name from the component of the blood they impact.

The following categories describe blood disorders that cause a decrease in blood components or affect their function:

- **anemia** – if the disorder involves red blood cells
- **leukopenia** – if the disorder affects white blood cells
- **thrombocytopenia** – if the disorder concerns platelets

Categories of blood disorders that increase blood components are:

- **erythrocytosis** – if the disorder involves red blood cells
- **leukocytosis** – if the disorder affects white blood cells
- **thrombocythemia** or thrombocytosis – if the disorder concerns platelets

Types of white blood cell disorders

White blood cells help the body to fight infection.

They begin life in the bone marrow and develop into different types of cells, each having a different immune purpose.

The major types are:

- **neutrophils**, which destroy bacteria and viruses
- **lymphocytes**, which kill viruses and regulate the immune system
- **monocytes or macrophages**, which eat dead or deactivated bacteria, viruses, and fungus
- **basophils and eosinophil**, which help the body respond to allergic reactions and help destroy parasites

Most white blood cell disorders are either a type of cancer or proliferative disorders.

Proliferative disorders involve a rapid increase in the number of white blood cells that are circulating in the blood.

There are three major types of blood cancer that impact white blood cells, and they include the following:

1- Lymphoma

Lymphoma is a type of cancer that occurs when lymphocytes change and multiply rapidly. There are two major types of lymphoma:

Hodgkin's and, non-Hodgkin lymphoma.

Hodgkin's lymphoma is far rarer than non-Hodgkin's lymphoma.

2- Leukemia

Leukemia involves the build-up of abnormal white blood cells in the bone marrow, which interferes with its ability to produce red blood cells and platelets.

Leukemia can be acute and develop quickly, or chronic and develop more gradually over time.

Nursing care of leukemia

1. *prevent care ;give special attention to mouth care
2. *inspect the skin frequently
3. *use interventions for anemia and thrombocytopenia
4. *give increased fluids to flush chemotherapy through the kidney
5. *provide a high –protein ,high-calorie
6. *provide pain relief
7. *note the side effects of radiation and chemotherapy
8. *help the child and the family allay their fears and guilt
9. *help the child adjust to change in body image

3- Myelomas

Myelomas involve the build-up of plasma cells in the bone marrow, which interferes with the development and function of other blood cells.

The most common type of myeloma is multiple myeloma, where abnormal plasma cells build-up or form a tumor in numerous locations in the bone or marrow.

Treatment and diagnosis

Diagnoses leukemia, lymphomas, and myelomas using:

- a medical exam and a complete medical history
- blood tests
- urine tests
- bone marrow aspiration and biopsy
- lumbar puncture (spinal tap), collect spinal fluid for examination
- imaging tests, such as X-ray, CT, or PET scans, MRI, and ultrasound

Treatment leukemia, lymphomas, and myelomas using:

- chemotherapy
- radiation therapy
- surgery
- stem cell transplants, which involve infusions containing bone marrow cells that are capable of forming blood cells to replenish destroyed cells

Types of red blood cell disorders

Anemia affects the red blood cells.

Anemia, where there are not enough red blood cells or the cells do not work correctly, are among the most common blood disorders.

The most common types are:

- **iron-deficiency anemia** — when the body does not have enough iron or cannot properly absorb it
- **pregnancy anemia** — when there is more of a demand for red blood cells than normal
- **vitamin-deficiency anemia** — usually caused by low dietary intake of vitamin B-12 and folate
- **non-inherited hemolytic anemia** — where red blood cells are broken and destroyed in the bloodstream abnormally, either by injury, illness, or medications
- **inherited hemolytic anemia** — where red blood cells are broken down or destroyed more quickly than the body can replace them
- **aplastic anemia** — when the bone marrow stop producing enough blood cells

Diagnosis of anemia

- a physical exam
- review individual and family medical history
- carry out blood tests, such as complete blood counts
- bone marrow aspiration and biopsy

Treatment depends on the cause but commonly includes:

- blood transfusions

- dietary changes
- surgery
- medications that stimulate the production of bone marrow and new red blood cells

Types of platelet cell disorders

Common platelet disorders include:

Hemophilia

Hemophilia is a genetic condition caused by a lack of or defective clotting factors in a person's blood.

People with hemophilia bleed longer or more excessively, both externally and internally than people without the condition.

Treatment and diagnosis

To diagnose and assess platelet conditions,

a physical exam

- a review of individual and family medical history
- blood tests

Treating blood clotting disorders typically involves replacement therapy

Blood transfusions

- corticosteroids to slow platelet destruction
- immunoglobulins to block the immune system
- surgery to remove the spleen in severe cases

Management

1-the main line of management of hemophilia is the prevention of bleeding prompt treatment to limit further tissue damage.

2-Bleeding must be controlled by the demonstration of factor VIII, this may be supplied by fresh whole blood or by a concentration of factor VIII

Symptoms of a blood disorder

Fatigue and dizziness are potential symptoms of a blood disorder.

Signs of white blood cell disorders include:

- frequent infections
- wounds that do not heal or are slow to heal
- unexplained exhaustion
- unexplained weight loss

Signs of red blood cell disorders include:

- unexplained exhaustion

- shortness of breath
- dizziness or light-headedness
- rapid heartbeat
- muscle weakness
- paleness

Signs of platelet and clotting disorders include:

- difficulty forming blood clots at wounds or controlling bleeding
- injuries that are slow to heal or keep re-opening
- unexplainable bruising or skin that easily bruises
- unexplainable bleeding from the nose, gums, gastrointestinal system, or urogenital system

نشاط اسئلة عن المحاضرة 10+11

اسم النشاط	اسئلة عن المحاضرة السابقة (10+11)
الهدف من النشاط	تنشيط ذاكرة الطلبة وتشجيعهم على المراجعة
ادوات تنفيذ النشاط	جهاز عرض
الية التنفيذ	اختيار طلاب بشكل عشوائي للرد على الاسئلة المعروضة
مدة النشاط	10 دقائق

الاسئلة على جهاز العرض

- Enumerate the types of blood diseases?
- Classification the leukemia in pediatric?

النشاط 2/2 الاسئلة المتعددة الخيارات

Multiple choice questions (MCQ);

1- Treatment leukemia, lymphomas, and myelomas using except one of them:

a) Chemotherapy
b) Amputation
c) radiation therapy

2- Signs of platelet and clotting disorders include:

a) difficulty forming blood clots at wounds or controlling bleeding

b) injuries that are slow to heal or keep re-opening

c) unexplainable bruising or skin that easily bruises

3- Hemophilia is:

a) a genetic condition caused by a lack of or defective clotting factors in a person's blood.
b) Blood cancer
c) Bleeding disorder

المحاضرة 12-13

Part 7: child with cardiovascular dysfunction

- Cyanotic heart diseases
- A cyanotic heart disease

الاسبوع 12+13: 360 دقيقة

اهداف المحاضرة:

- Overview of cardiovascular systems anatomy
- Known and define A cyanotic (PDA, VSD, ASD, PS)
- Known and define cyanotic (TOF, transposition of the great arteries)

يتوقع نهاية لمحاضرة ان يكون الطالب قادر على:

By the end of the lecture, the student should be able to;

- identify of cardiovascular systems anatomy
- Cyanotic heart diseases
- A cyanotic heart disease
- apply Nursing role related to heart diseases

الاساليب والانشطة والوسائل المستخدمة

م	الاساليب والانشطة	الوسائل
12+13	نشاط اسئلة عن المحاضرة 12+13 محاضرة مناقشة سؤال وجواب نشاط متعدد الخيارات(2/2)	جهاز حاسوب جهاز عرض سبورة واقلام

خطة اجراءات تنفيذ المحاضرة

المحاضرة	الاجراءات	الزمن بالدقيقة
12+13	موجز عن ماقدم بالمحاضرة السابقة وسؤال وجواب عنها	10
	معرفة اولية عن المحاضرة الحالية	10
	سؤال شفهي للطلاب بشكل عشوائي لتقيم معرفتهم الاولية	10
	القاء محاضرة باستخدام جهاز العرض والسبورة	100
	عرض فديوتوضيحي	10
	استراحة	10
	نشاط متعدد الخيارات (2/2)	10
	مناقشة النشاط المتعدد الخيارات وكيفية حلها	10
	عرض موضوع واهداف المحاضرة الثانية للاسبوع الثاني	10
	المجموع	**2*180**

المادة العلمية

Congenital Heart Disease

A baby's heart begins to develop at conception, but is completely formed by eight weeks into the pregnancy. Congenital heart defects happen during this crucial first eight weeks of the baby's development. Congenital heart defects are the most common birth defects.

causes of congenital heart disease?

1. The majority of congenital heart defects have no known cause.
2. Genetic factors
3. mother had a disease was taking medications, such as anti-seizure
4. Infection disease (rubella)in early pregnancy
5. Smoking and alcoholism
6. Chronic disease such as (H.T ,D.M)
7. mother age over 40 years
8. Chromosomal abbreviation

Classification of congenital heart defects?

1. problems that cause too much blood to pass through the lungs such as (PDA,VSD ,ASD
2. problems that cause too little blood to pass through the lungs such as (tricuspid atresia , pulmonary atresia (PA) , tetralogy of Fallot)
3. problems that cause too little blood to travel to the body such as (coarctation of the aorta , aortic stenosis)

Other classification :

- A cyanotic (PDA,VSD ,ASD,PS)
- cyanotic (TOF,transposition of the great arteries

A cyanotic diseases

- patent ductus arteriosus (PDA) -the normal pulmonary vascular system and allows blood to mix between the pulmonary artery and the aorta. Prior to birth, there is an open passageway between the two blood vessels, which closes soon after birth. When it does not close, some blood returns to the lungs. Patent ductus arteriosus is often seen in premature infants.
- atrial septal defect (ASD) - in this condition, there is an abnormal opening between the two upper chambers of the heart - the right and left atria - causing an abnormal blood flow through the heart. Some children may have no symptoms and appear healthy.
- ventricular septal defect (VSD) - abnormal opening between the two lower chambers of the heart - the right and left ventricles) occurs. This causes an extra volume of blood to be pumped into the lungs by the right ventricle, which can create congestion in the lungs.
- coarctation of the aorta (coarct) - in this condition, the aorta is narrowed or constricted, obstructing blood flow to the lower part of the body and increasing blood pressure above the constriction. Usually there are no symptoms at birth, but they can develop as early as the first week after birth. If severe symptoms of high blood pressure and congestive heart failure develop, and surgery may be considered.

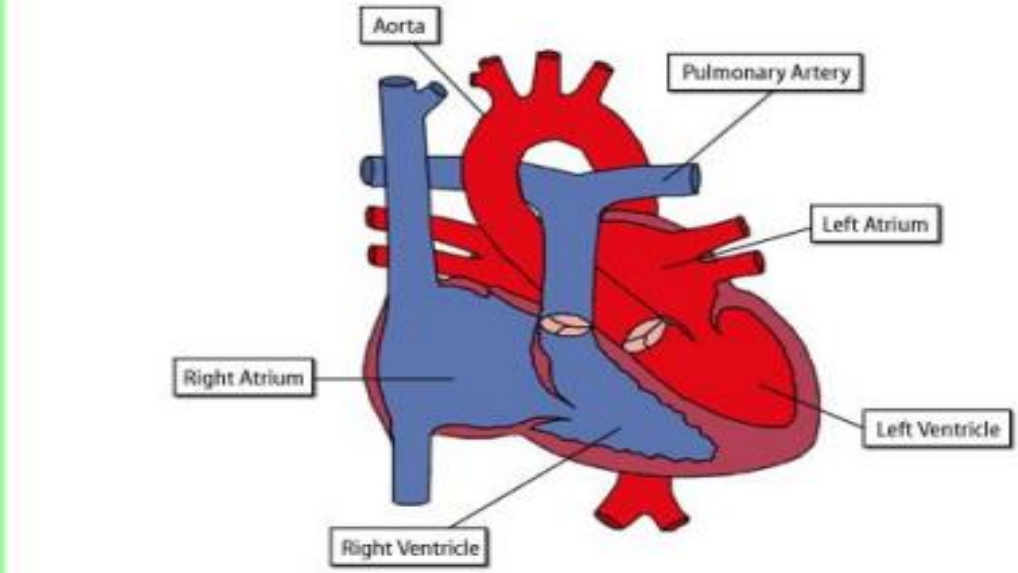
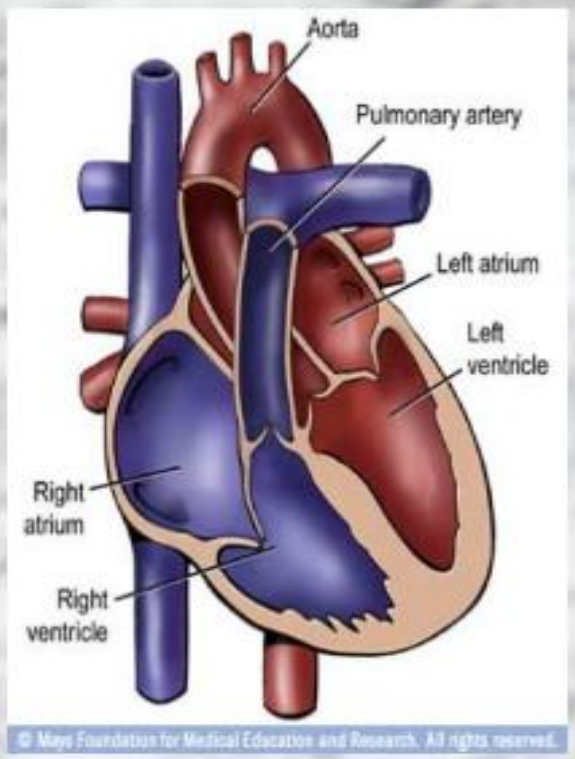
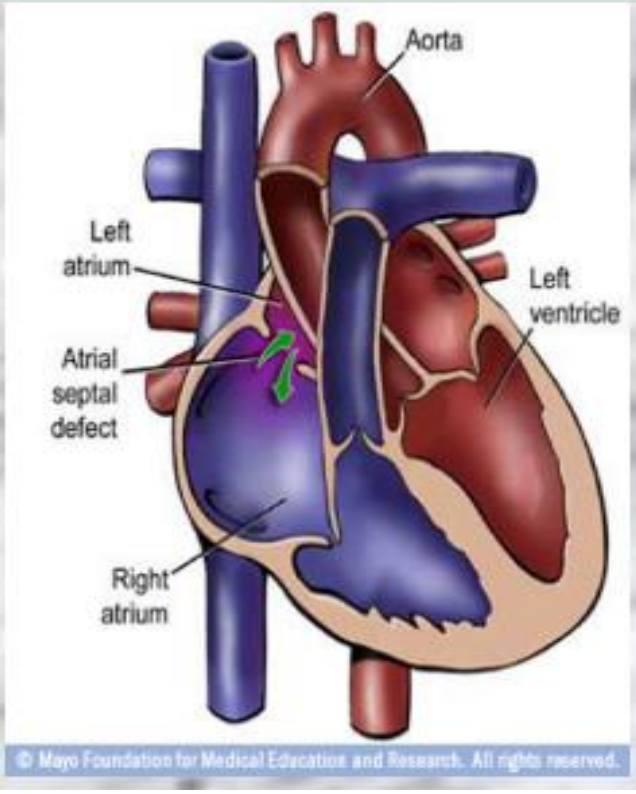
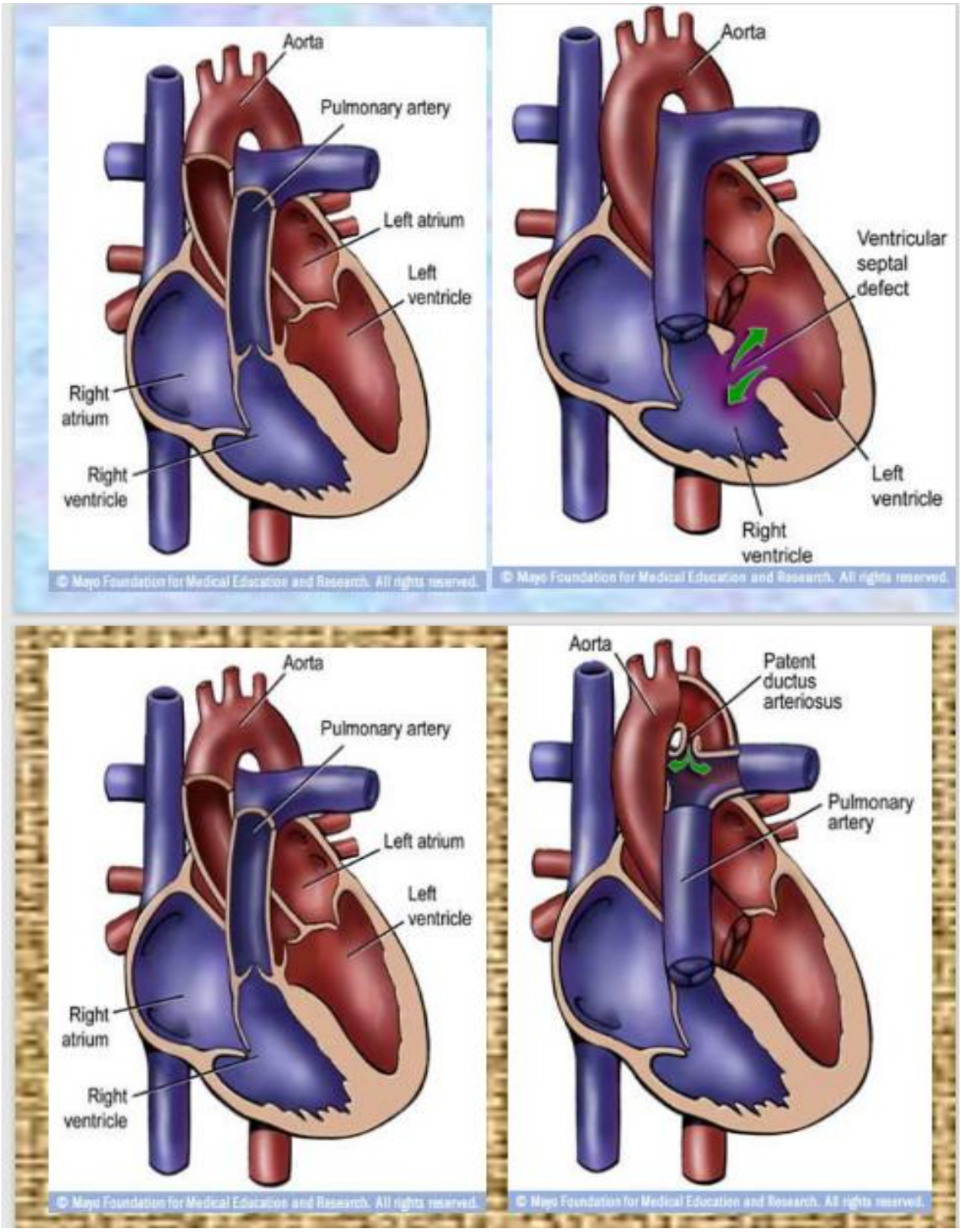
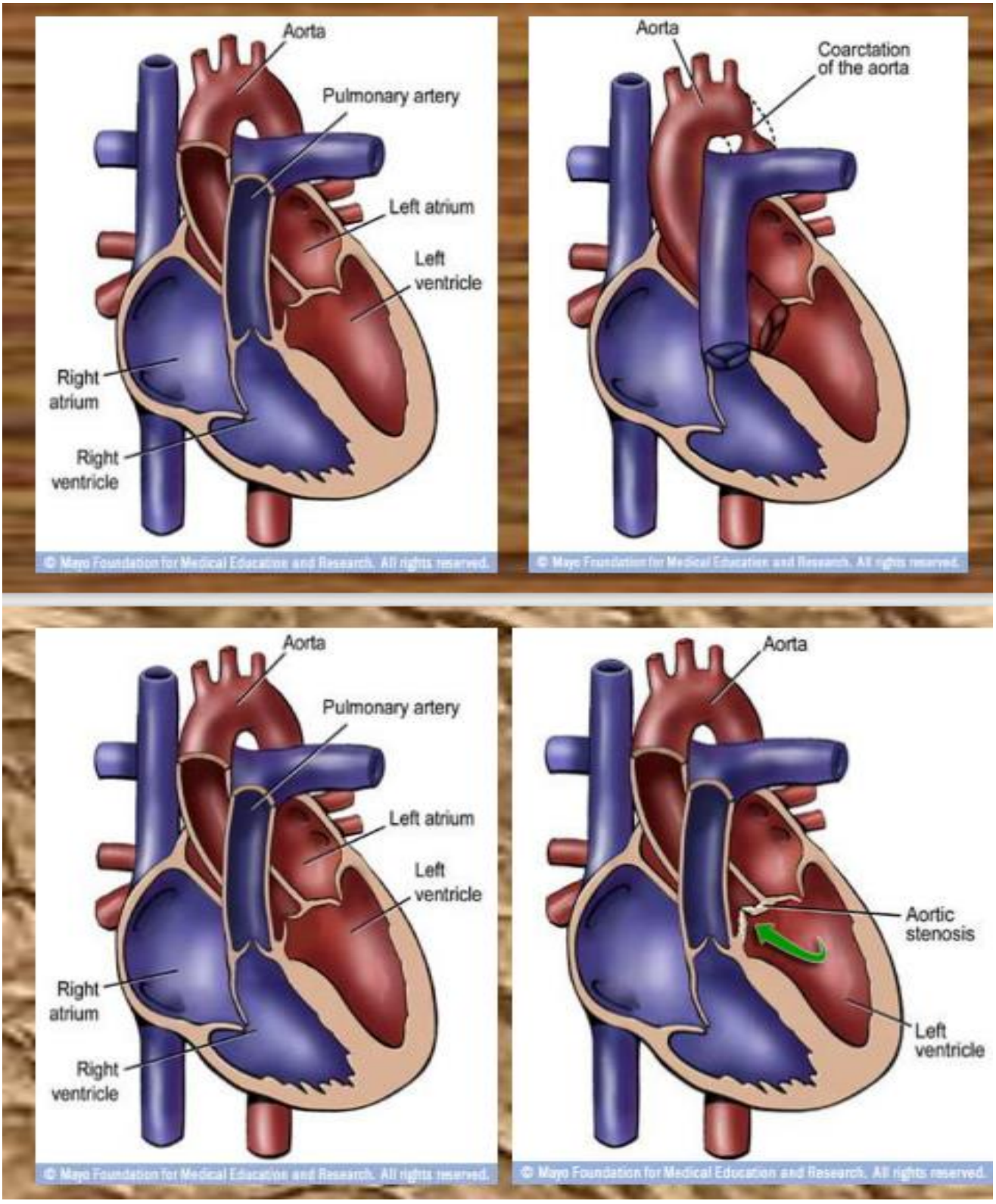


Figure 1: Normal heart blood flow






Aorta
Pulmonary artery
Left atrium
Left ventricle
Right atrium
Right ventricle
Aorta
Ventricular septal defect
Left ventricle
Right ventricle
Aorta
Pulmonary artery
Left atrium
Left ventricle
Right atrium
Right ventricle
Aorta
Patent ductus arteriosus
Pulmonary artery


Aorta
Pulmonary artery
Left atrium
Left ventricle
Right atrium
Right ventricle
© Mayo Foundation for Medical Education and Research. All rights reserved.
Aorta
Coarctation of the aorta
© Mayo Foundation for Medical Education and Research. All rights reserved.
Aorta
Pulmonary artery
Left atrium
Left ventricle
Right atrium
Right ventricle
© Mayo Foundation for Medical Education and Research. All rights reserved.
Aorta
Aortic stenosis
Left ventricle
© Mayo Foundation for Medical Education and Research. All rights reserved.

Cyanotic diseases

- **transposition of the great arteries** - with this congenital heart defect, the positions of the pulmonary artery and the aorta are reversed

  the aorta originates from the right ventricle, so most of the blood returning to the heart from the body is pumped back out without first going to the lungs.

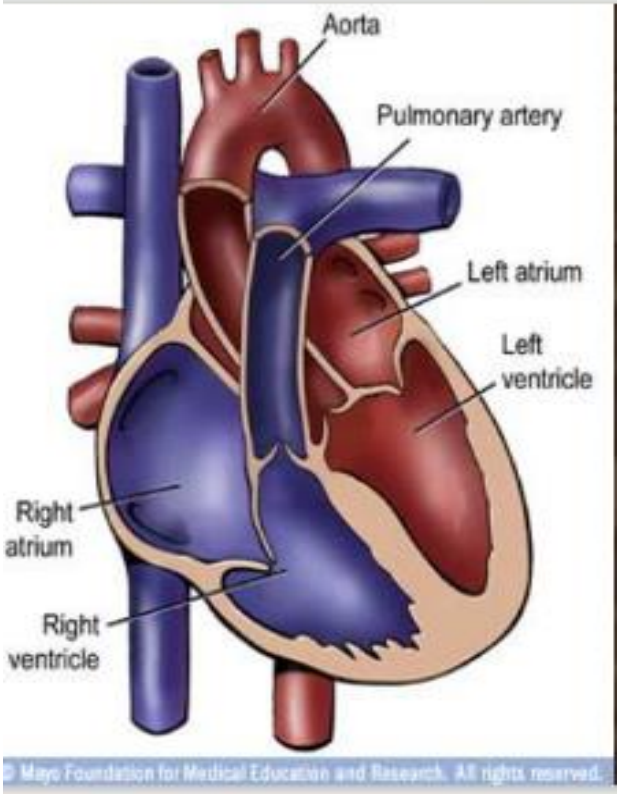
  the pulmonary artery originates from the left ventricle, so that most of the blood returning from the lungs goes back to the lungs again
- **tetralogy of Fallot** - **this condition is characterized by the following four defects:**

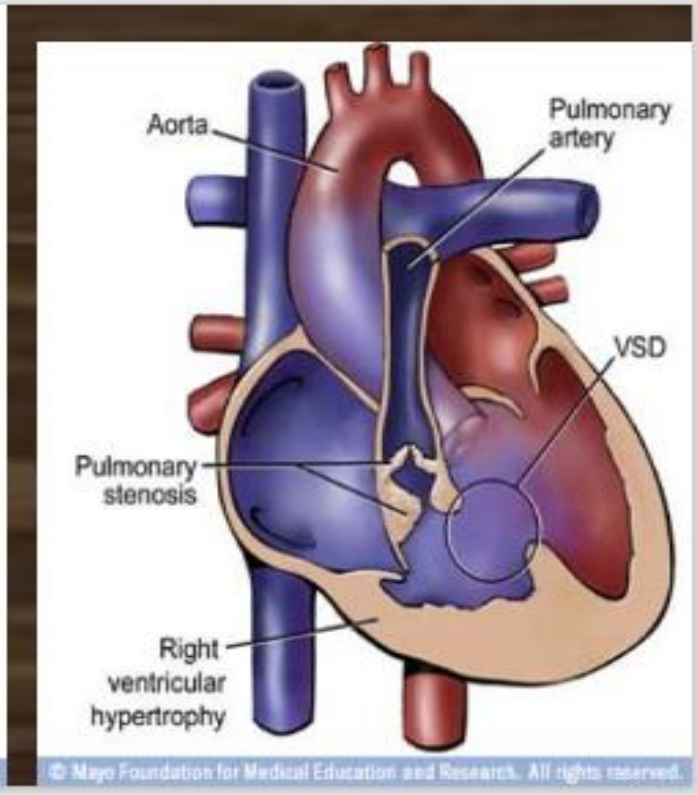
  -an abnormal opening, or ventricular septal defect, that allows blood to pass from the right ventricle to the left ventricle without going through the lungs

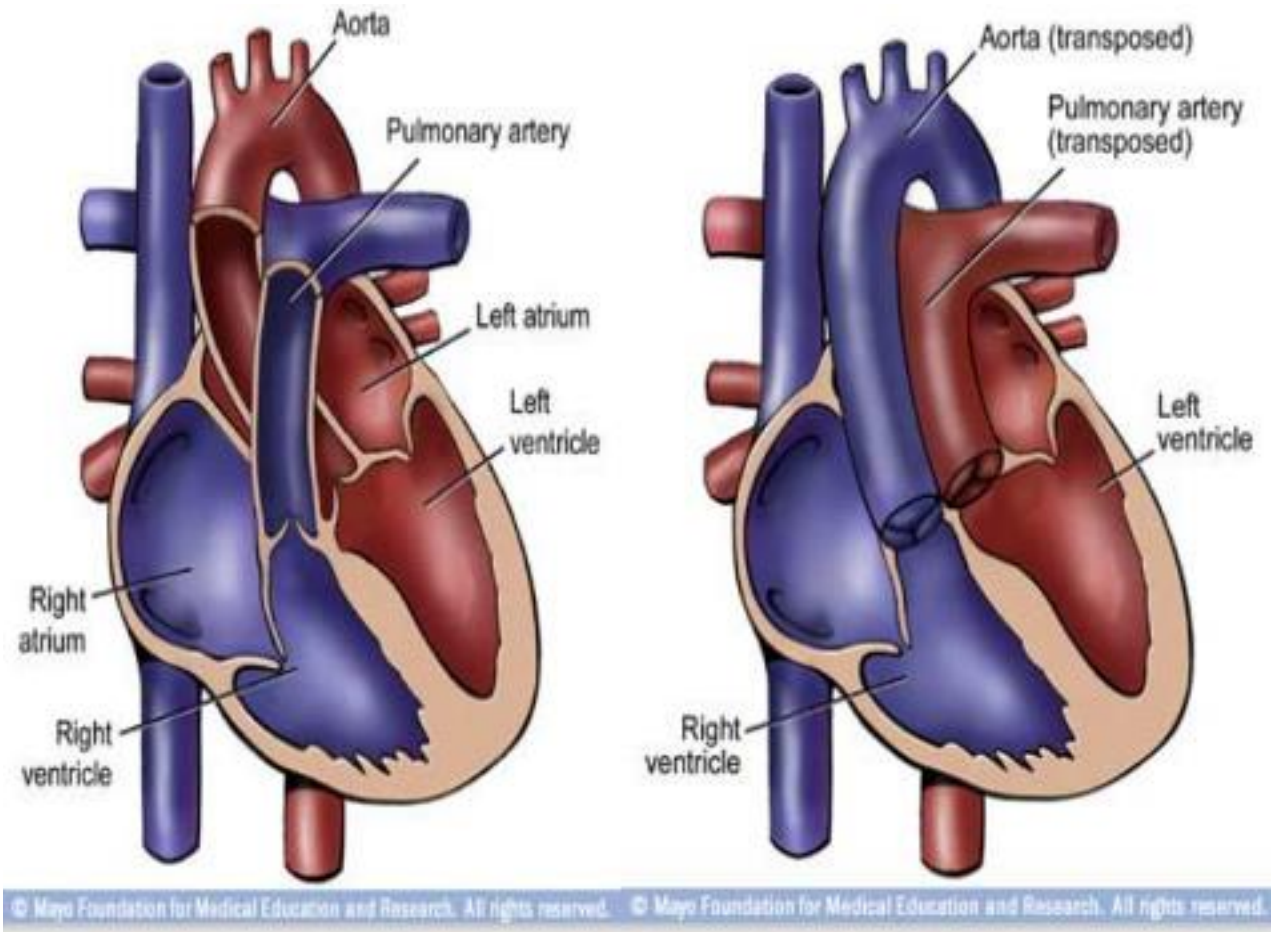
  -a narrowing (stenosis) at or just beneath the pulmonary valve that partially blocks the flow of blood from the right side of the heart to the lungs

  -the right ventricle is more muscular than normal

  -the aorta lies directly over the ventricular septal defect
- **Tetralogy of Fallot results in cyanosis (bluish color of the skin and mucous membranes due to lack of oxygen).**







Diagnosis of CHD

- Electrocardiogram ECG
- Chest –x-ray
- Echocardiography
- Cardiac catheterization

CONGESTIVE HEART FAILURE

- Is the inability of the heart to pump an adequate amount of blood to the systemic circulation .CHF occur secondary to the heart abnormalities . It is not a disease in itself but it is a symptom caused by cardiac defect
- Most common signs and symptoms are

1. Tachycardia ,sweating
2. Fatigue and weakness
3. Pale and cold extremities
4. Weak peripheral pulse and decreased blood pressure
5. Dyspnea ,cough and wheezing
6. Cyanosis
7. Cardiomegaly
8. Sudden weight gain

General signs and symptoms of CHD

- Dyspnea
- tachycardia
- Difficult in feeding
- Heart murmur
- cyanosis
- Failure to gain
- Clubbing finger
- Fatigue
- Recurrent respiratory infection

Nursing Management of the Child With Congenital Heart Disease

Improving Oxygenation

Assess airway patency and suction as needed.

Position the child in the Fowler or semi-Fowler position to facilitate lung expansion.

Monitor vital signs, especially heart and respiratory rates.

Monitor the child's color and oxygen saturation levels closely, using these to guide oxygen administration.

Observe for tachypnea and other signs of respiratory distress, such as nasal flaring, grunting, and retractions.

Auscultate the lungs for adventitious sounds.

Provide humidified supplemental oxygen as ordered, warming it to prevent wide temperature fluctuations.

Anticipate the need for assisted ventilation if the child has difficulty maintaining the airway or experiences deterioration in oxygenation capacity.

RELIEVING HYPERCYANOTIC SPELLS

- Use a calm, comforting approach.
- Place the infant or child in a knee-to-chest position.
- Provide supplemental oxygen.
- Administer morphine sulfate (0.1 mg/kg IV, IM, or SQ).
- Supply IV fluids.
- Administer propranolol(0.1 mg/kg IV).

Promoting Adequate Nutrition

Adequate nutrition is critical to foster growth and development as well as to reduce the risk for infection. Children with congenital heart defects typically have increased nutritional needs due to the increased energy expenditure associated with increased cardiac and respiratory workloads. In addition, many of the defects lead to heart failure, which may affect the child's fluid balance status, further increasing the child's energy expenditure. Nutrition may be provided orally, enterally, or parenterally. For example, for the newborn or infant, nutrition via breast milk or formula may be provided orally or via gavage feedings. Breastfeeding is usually associated with decreased energy expenditure during the act of feeding, yet some infants in intensive care are not stable enough to breastfeed. Gavage with breast milk is possible, and the use of human milk fortifier (either with breastfeeding or added to the gavage feed) adds additional calories that the infant requires. Consult the

nutritionist to determine the individual infant's caloric needs and prescription of appropriate feeding. Cutting a large hole in the nipple or "cross-cutting" the nipple decreases the work of feeding for some infants. Generally, nipple feedings should be limited to a 20-minute duration, as feeding for longer periods results in excess caloric expenditure. Many infants may feed orally for 20 minutes, receiving the remainder of that feeding via orogastric or nasogastric tube. Offer older children small, frequent feedings to reduce the amount of energy required to feed or eat and to prevent overtiring the child. When needed, administer and monitor total parenteral nutrition as prescribed.

Assisting the Child and Family to Cope The diagnosis of CHD

The parents may fear long-term disability or death or may worry that allowing the child to engage in any activity will worsen his or her status. Thus, the parents may tend to overprotect the child.

It is important for the parents to continue parenting the child, even when the child requires extended hospitalizations or intensive care.

Explain all that is happening with the child, using language the parents and child can understand. Allow the parents and child to voice their feelings, concerns, or questions. Provide ample time to address these questions and concerns.

Encourage the parents and the child, as developmentally appropriate, to participate in the child's care.

If the child is a newborn or infant, encourage attachment and bonding. Emphasize the child's positive attributes, including the normal aspects of the infant. Help the parents to experience the joy of a new infant and see the beauty of the child, no matter how ill the infant is. Urge the parents to touch, stroke, pat, and talk to the infant.Encourage them to hold the infant close, using kangaroo care as appropriate.

If the child is older, offer suggestions as to how the parents can meet the child's emotional needs. For example, encourage them to bring a favorite toy or object from home while the child is hospitalized. Provide developmentally appropriate explanations to the child. Encourage play therapy to help the child understand what is happening.

Preventing Infection

Teach parents proper hand hygiene.

Provide appropriate dental care.

Make sure the child receives prophylaxis for infective endocarditis as needed.

Providing Care for the Child Undergoing Cardiac Surgery

PROVIDING PREOPERATIVE CARE

The preoperative physical assessment includes:

- Temperature and weight measurements
- Examination of extremities for peripheral edema, clubbing, and evaluation of peripheral pulses
- Auscultation of the heart (rate, rhythm, heart sounds, murmurs, clicks, and rubs)
- Respiratory assessment, including respiratory rate, work of breathing, and auscultation of the lungs for breath sounds

Obtain any necessary laboratory and diagnostic tests to establish a baseline

Child and parent education typically includes the following topics:

- Heart anatomy and its function, including what area is involved with the defect that is to be corrected
- Events before surgery, including any testing or preparation such as a skin scrub
- Location of the child after surgery, such as a pediatric intensive care unit, which may include a visit to the unit if appropriate and explanation of the sights and sounds that may be present
- Appearance of the child after surgery (equipment or devices used for monitoring, such as oxygen administration, electrocardiogram leads, pulse oximeter, chest tubes, mechanical ventilation, or intravenous lines)
- Approximate location of the incision and coverage with dressings
- Postoperative activity level, including measures to reduce the risk of complications, such as coughing and deep-breathing exercises, incentive spirometry, early ambulation, and leg exercises
- Nutritionalrestrictions, such as nothing by mouth for a specified time before surgery and use of intravenous fluids
- Medications, such as anesthesia, sedation, and analgesics as well as medications the child is taking now that need to be continued or withheld "

PROVIDING POSTOPERATIVE CARE

The child will usually be transported from the operating room to the intensive care unit. Depending on the child's age, postoperative stability, and type of surgery, the child may stay in the intensive care unit for several hours up to several days. During the postoperative period the nurse should do the following:

- Assess vital signs frequently, as often as every 1 hour, .
- Assess the color of the skin and mucous membranes, check capillary refill, and palpate peripheral pulses.
- Observe cardiac rate and rhythm via electronic monitoring and auscultate heart rate and rhythm and heart sounds frequently.
- Monitor hemodynamic status via arterial and/or central venous lines (left and right atrial and pulmonary artery pressures, pulmonary artery oxygen saturation)
- Auscultate lungs .
- Assess oxygen saturation levels via pulse oximetry and arterial blood gases as well as work of breathing and level of consciousness frequently.
- Administer supplemental oxygen as needed.
- Monitor mechanical ventilation and suction as ordered.
- Inspect chest tube functioning, noting amount, color, and character of drainage.
- Inspect the dressing (incision and chest tube) for drainage and intactness. Reinforce or change the dressing as ordered.
- Assess the incision for redness, irritation, drainage, or separation.
- Monitor intake and output hourly.
- Maintain accurate intravenous infusion rate; restrict fluids as ordered to prevent hypervolemia
- Assess for changes in level of consciousness. Report restlessness, irritability, or seizures.
- Obtain ordered laboratory tests, such as CBC count, coagulation studies, cardiac enzyme levels, and electrolyte levels. Report abnormal lresults.
- Administer medications, such as digoxin or inotropic or vasopressor agents, as ordered, watching the child closely for possible adverse effects.
- Encourage the child to turn, cough, deep breathe.

نشاط اسئلة عن المحاضرة 12+13

اسم النشاط	اسئلة عن المحاضرة السابقة (12+13)
الهدف من النشاط	تنشيط ذاكرة الطلبة وتشجيعهم على المراجعة
ادوات تنفيذ النشاط	جهاز عرض
الية التنفيذ	اختيار طلاب بشكل عشوائي للرد على الاسئلة المعروضة
مدة النشاط	10 دقائق

الاسئلة على جهاز العرض

- Enumerate the congenital heart diseases?
- What are the cyanotic heart diseases in pediatric?

النشاط 2/2 الاسئلة المتعددة الخيارات

Multiple choice questions (MCQ);

1- a cyanotic heart diseases except one of them:

d) PDA
e) TOF
f) VSD

2- Signs of TOF disorders include:

d) cough

e) SOB

f) fever

3- coarectation of the aorta is:

d) Narrowing the great arteries
e) Blood disorder
f) Bleeding disorder

المحاضرة 14+15

Part 8: child with neurological dysfunction

- Spina bifida
- Hydrocephalus
- Meningitis

Part 9: child with endocrine dysfunction

- Diabetes mellitus
- Growth hormone deficiency
- hypothyrodisim

الاسبوع 14+15: 360 دقيقة

اهداف المحاضرة:

- Overview of neurological systems anatomy
- Known and define Spina bifida
- Known Hydrocephalus
- Known Meningitis

يتوقع نهاية لمحاضرة ان يكون الطالب قادر على:

By the end of the lecture, the student should be able to;

- identify of neurological systems anatomy
- identify Spina bifida
- identify Hydrocephalus
- identify Meningitis
- apply Nursing role related to neurological diseases

الاساليب والانشطة والوسائل المستخدمة

م	الاساليب والانشطة	الوسائل
15+14	نشاط اسئلة عن المحاضرة 14+15 محاضرة مناقشة سؤال وجواب نشاط متعدد الخيارات(2/2)	جهاز حاسوب جهاز عرض سبورة واقلام

خطة اجراءات تنفيذ المحاضرة

المحاضرة	الاجراءات	الزمن بالدقيقة
15+14	موجز عن ماقدم بالمحاضرة السابقة وسؤال وجواب عنها	10
	معرفة اولية عن المحاضرة الحالية	10
	سؤال شفهي للطلاب بشكل عشوائي لتقيم معرفتهم الاولية	10
	القاء محاضرة باستخدام جهاز العرض والسبورة	100
	عرض فديوتوضيحي	10
	استراحة	10
	نشاط متعدد الخيارات (2/2)	10
	مناقشة النشاط المتعدد الخيارات وكيفية حلها	10
	عرض موضوع واهداف المحاضرة الثانية للاسبوع الثاني	10
	المجموع	**2*180**

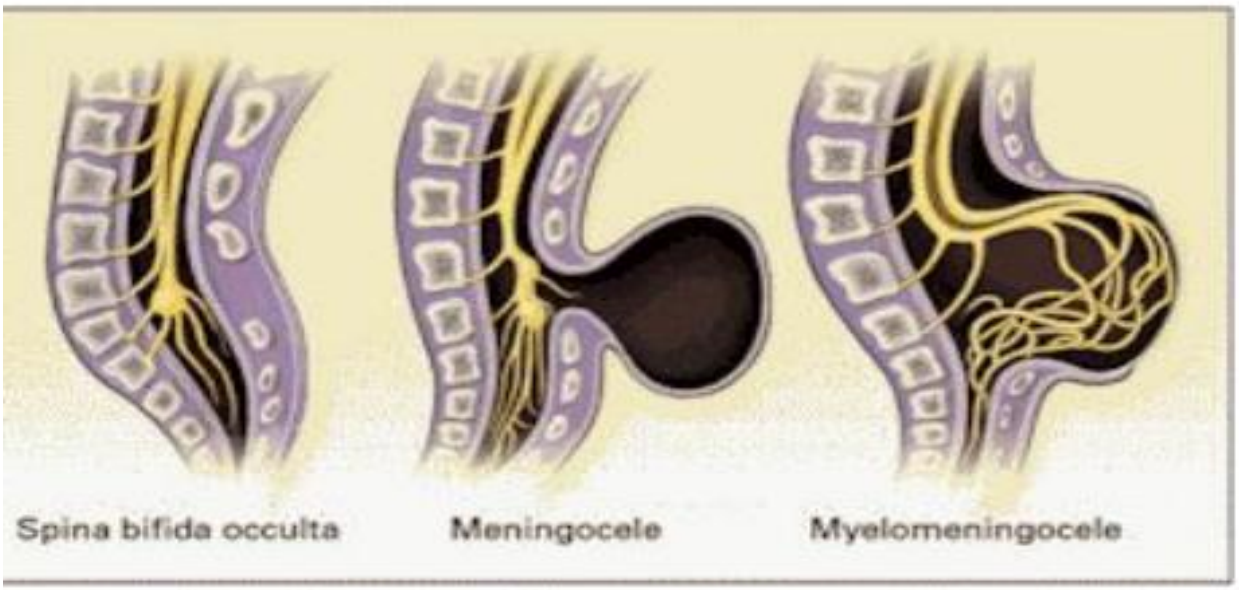
المادة العلمية

What is spina bifida

Spina bifida (SB) is a neural tube defect (a disorder involving incomplete development of the brain, spinal cord, and/or their protective coverings) caused by the failure of the fetus's spine to close properly during the first month of pregnancy.L5S1 is the most location

Common types of spina bifdida

There are many types of spina bifida. The most common are



:A-Cystica includes

Myelomeningocele:

sac protrudes from an opening in a baby's back this sac contains meninges and spinal cord. The nerves at and below the defect are damaged. Babies need surgery shortly after birth to repair the affected area of the back. The :most manifestation are

The babies suffer from flaccid extremities

loss control of bowel and urine may be paralysis

.Club foot and hydrocephalus

Meningocele:

sac protruding from an opening in the back. Unlike with Myelomeningocele, .the sac doesn't contain the spinal cord

B-Spina Bifida Occulta: (asymptomatic)

The bones around a baby's spinal cord fail to develop normally. The nerves of the spinal cord usually are normal. Babies rarely need surgery shortly :after birth to repair the defect. The most manifestation is

,Have dimple in skin -1

Hair patch (tuft hair) -2

.Red discoloration on the skin at the point of the defect -3

Numbness or parasethesia -4

Meddical management

.There is no cure for SB because the nerve tissue cannot be replaced or repaired-1

Treatment for the variety of effects of SB may include surgery, medication, and-2 .physiotherapy

Ongoing therapy, medical care, and/or surgical treatments may be necessary to-3 .prevent and manage complications throughout the individual's life

Surgery to close the newborn's spinal opening is generally performed within 24-4 .hours

Predisposing factors

- genetic factors
- mother nutrition
- If a woman doesn't have enough folic acid in her diet while she's pregnant, she may be more likely to have a baby with spina bifida.
- A woman who has a high fever early in her pregnancy also may be at higher risk of having a baby who has spina bifida.

complication of spina bifida

1. Depending on the severity and location of the defect, people who have spina bifida can experience a wide range of medical complications, including:
2. Allergic reactions caused by prolonged exposure to latex
3. Bladder, bowel and kidney problems
4. Fractures
5. Hydrocephalus (excess fluid on the brain)
6. Learning disorders
7. Seizures

Nursing care of mylomeningocele

Preoperative care •

- keep child in comfortable position (brone position)
- sterile saline dressing or moist quase placed over sac and keep clean
- Frequent change of dressing (diaper)
- Frequent assessment and document sensory and motor impairment
- Support food to prevent foot drop
- Observe sac for irritation and abrasion
- Note the early signs and symptoms of infection
- gentle range-of –motion exercises to prevent contracture

Postoperative care •

1. Involve the same basic care of any post surgical infant
2. Monitoring vital signs and reporting: temperature, pulse and respiration frequently
3. Record intake and output fluid, nourishment
4. Observe early signs and symptoms of infection and shock
5. Decrease pain
6. Wound management and the dressing should kept clean
7. Daily check of head circumference and fontanel tense
8. Frequent change of position (prone position)
9. Neurological examination for any motor or sensory impairment

Hydrocephalus

The term hydrocephalus is derived from the Greek words "hydro" meaning water and "cephalus" meaning head. Which the primary characteristic is excessive accumulation of fluid in the brain. Although hydrocephalus was once known as "water on the brain," the "water" is (CSF) — a clear fluid surrounding the brain and spinal cord. The excessive accumulation of CSF results in an abnormal dilation of the spaces in the brain called ventricles. This dilation causes potentially harmful pressure on the tissues of the brain.

What are the different types of hydrocephalus?

- **A- Communicating hydrocephalus**: occurs when the flow of CSF is blocked after it exits from the ventricles. This form is called communicating because the CSF can still flow between the ventricles, which remain open.
- **B- Non-communicating hydrocephalus:** occurs when the flow of CSF is blocked along one or more of the narrow pathways connecting the ventricles.

What causes hydrocephalus?

- **A- Congenital hydrocephalus:** Hydrocephalus may result from genetic inheritance or developmental disorders such as those associated with neural tube defects including spina bifida and encephalocele.
- **B-Acquired hydrocephalus:** develops at the time of birth or at some point afterward. This type of hydrocephalus can affect individuals of all ages and may be caused by injury or disease such as (meningitis, brain tumor or hemorrhage).

The causes of hydrocephalus are not all well understood. Hydrocephalus may result from genetic inheritance or developmental disorders such as those associated with neural tube defects including spina bifida and encephalocele. Other possible causes include complications of premature birth such as intraventricular hemorrhage, diseases such as meningitis, tumors, traumatic head injury, or subarachnoid hemorrhage blocking the exit from the ventricles to the cisterns and eliminating the cisterns themselves.

What are the symptoms?

- In infancy, the most obvious indication of hydrocephalus is often the rapid increase in head circumference or an unusually large head size. Other symptoms may include vomiting, sleepiness, irritability, downward deviation of the eyes (also called "sunsetting"), and seizures.
- Older children and adults may experience different symptoms because their skulls cannot expand to accommodate the buildup of CSF. In older children or adults, symptoms may include headache followed by vomiting, nausea, papilledema (swelling of the optic disk which is part of the optic nerve), blurred vision, diplopia (double vision), sunsetting of the eyes, problems with balance, poor coordination, gait disturbance, urinary incontinence, slowing or loss of development, lethargy, drowsiness, irritability, or other changes in personality or cognition including memory loss.
- Symptoms of normal pressure hydrocephalus include progressive mental impairment and dementia, problems with walking, and impaired bladder control leading to urinary frequency and/or incontinence. The person also may have a general slowing of movements

How is hydrocephalus diagnosed?

Hydrocephalus is diagnosed through clinical neurological evaluation and by using cranial imaging techniques such as ultrasonography, computed tomography (CT), magnetic resonance imaging (MRI), or .pressure-monitoring techniques

Treatment of hydrocephalus

With the help of physicians, rehabilitation therapists and educational experts, many children with hydrocephalus go on to lead normal lives with few limitations

Ventriculostomy

When hydrocephalus is caused by blockage of CSF flow from inside to outside of the brain, a surgical procedure called a third ventriculostomy can be performed to create an alternate pathway for CSF to get out of the .brain

What is a Shunt?

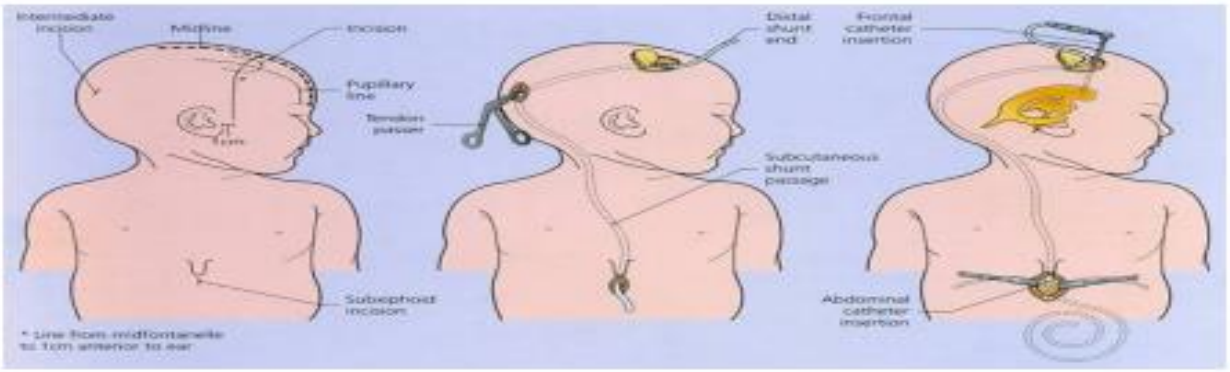
A shunt is simply a drain that diverts the accumulated CSF from the obstructed pathways and generally returns it into the abdomen. It is inserted surgically and is fully enclosed inside the body.

The shunt is usually placed behind the ear, under the skin where it cannot be seen, and the tubing is threaded from behind the ear, under the skin to the area of the abdomen, heart or lung. The drainage location is based on the child's condition, age, and other factors.

A tube that is placed inside the ventricular space in the head

A reservoir and valve to control the flow of CSF

Tubing that runs under the skin to the abdomen, or less commonly to the heart or outside the lung area



Responsibility of nurses about atrioventriocular shunt

1-the nurse should be assess head circumference daily
2- Observe and assess sign and symptoms of increase ICP such as tense fontanel, lethargy, and decrease level of consciousness, poor sucking and vomiting
3- The nurse should be check and document vital signs such as decrease of pulse and respiration, hypertension
4-observe early sign and symptoms of infection
5- Decrease pain and prevent crying because crying increase cerebral fluid pressure
6-Keep child in comfortable position and elevate head 15-30 degree
7- Infant not turned to lie on the side with the shunt to prevent putting pressure on the valve

.....?What is meningitis

- The brain and spinal cord are covered by connective tissue layers collectively called the meninges which form the blood-brain barrier.

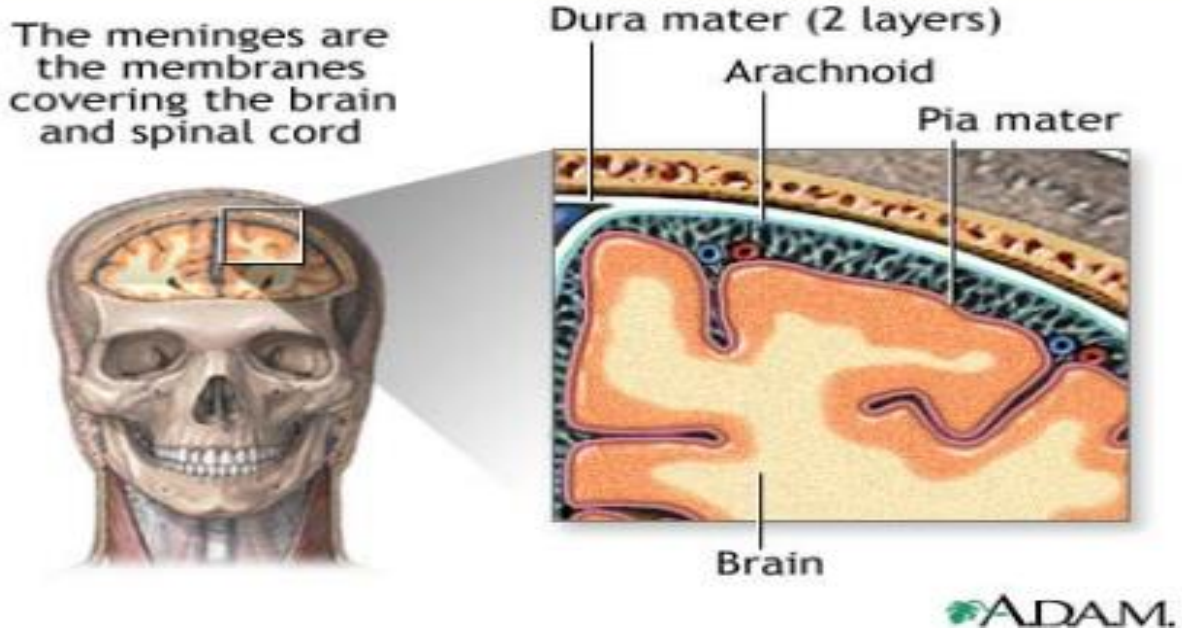
the pia mater (closest to the CNS)-1

the arachnoid mater-2

.the dura mater (farthest from the CNS)-3

The meninges contain cerebrospinal fluid (CSF).

Meningitis is an inflammation of the meninges, which, if severe, may become encephalitis, an inflammation of the .brain

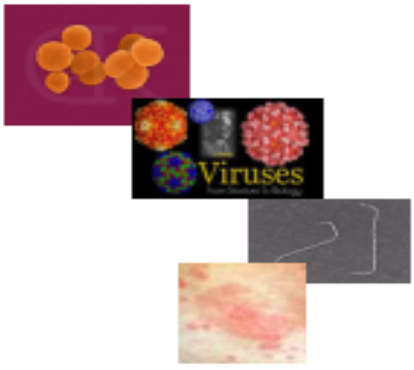


?What is Meningitis

- Meningitis can be caused by many different organisms including viruses and bacteria.
- Meningitis, caused by a bacteria, is life threatening and requires urgent medical attention and treatment with antibiotics.
- Meningitis caused by a virus is very rarely life threatening but can cause the body to become very weak.
- When bacteria invade the body they can cause meningitis, septicaemia or meningitis and septicaemia together

Causes of Meningitis

Bacterial Infections-
Viral Infections-
Fungal Infections-
0
Inflammatory diseases-
(SLE)
Cancer
.Trauma to head or spine-



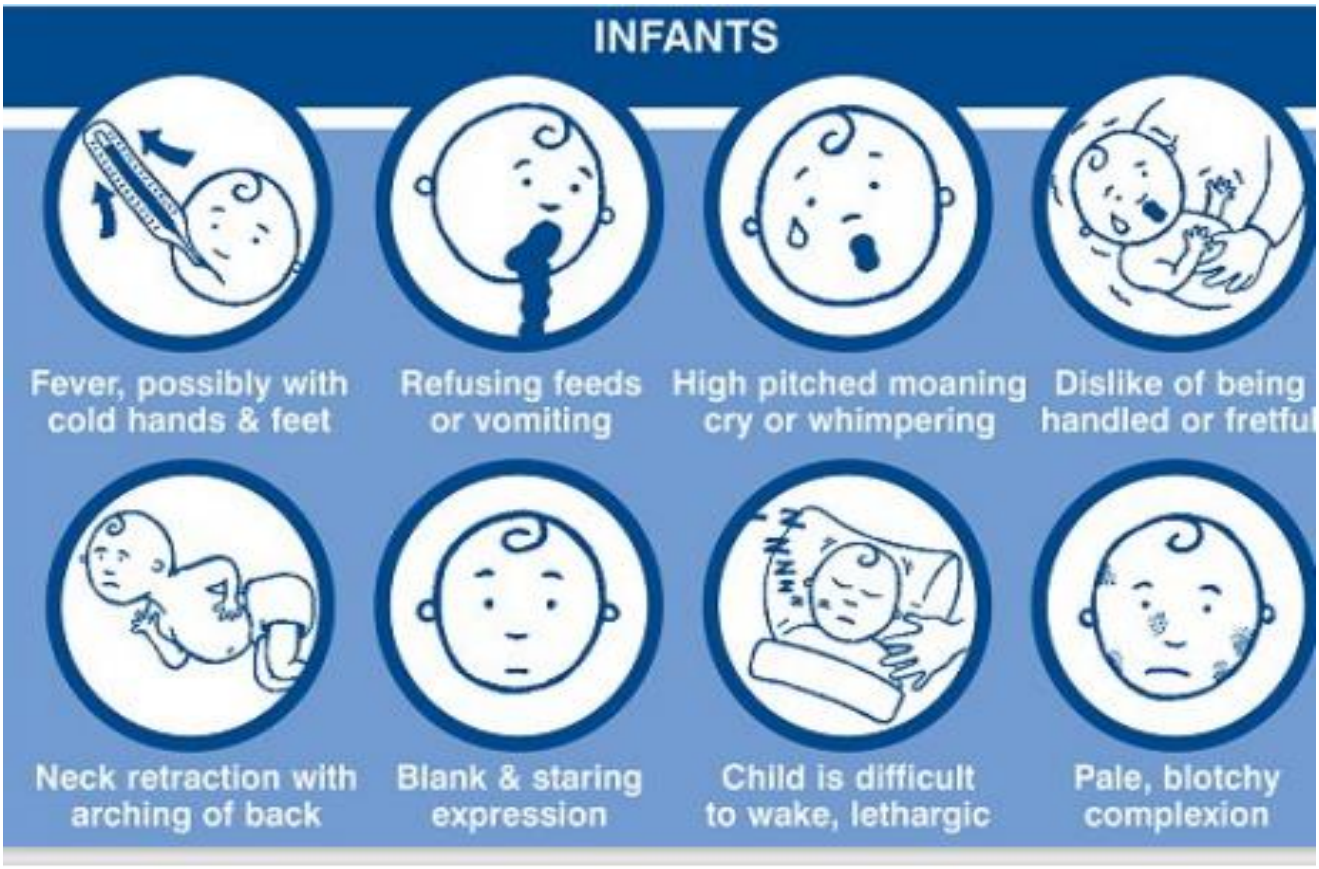
Bacterial meningitis…..
:Etiological Agents

- Pneumococcal, *Streptococcus pneumoniae (38%)*
- Meningococcal, *Neisseria meningitidis (14%)*
- *Haemophilus influenzae (4%)*
- Staphylococcal, *Staphylococcus aureus (5%)*
- Tuberculous, *Mycobacterium tuberculosis*

Symptoms of Meningitis and Septicemia

Meningitis and meningococcal septicaemia may not always be easy to detect, in early stages the symptoms can be similar to flu. They may develop over one or two days, but sometimes develop in a matter of hours.

It is important to remember that symptoms do not appear in any particular order and some may not .appear at all



Older Children and Adults

.High temperature, fever, possibly with cold hands and feet-

.Vomiting, sometimes diarrhoea-

.Severe headache-

.Joint or muscle pains, sometimes stomach cramps-

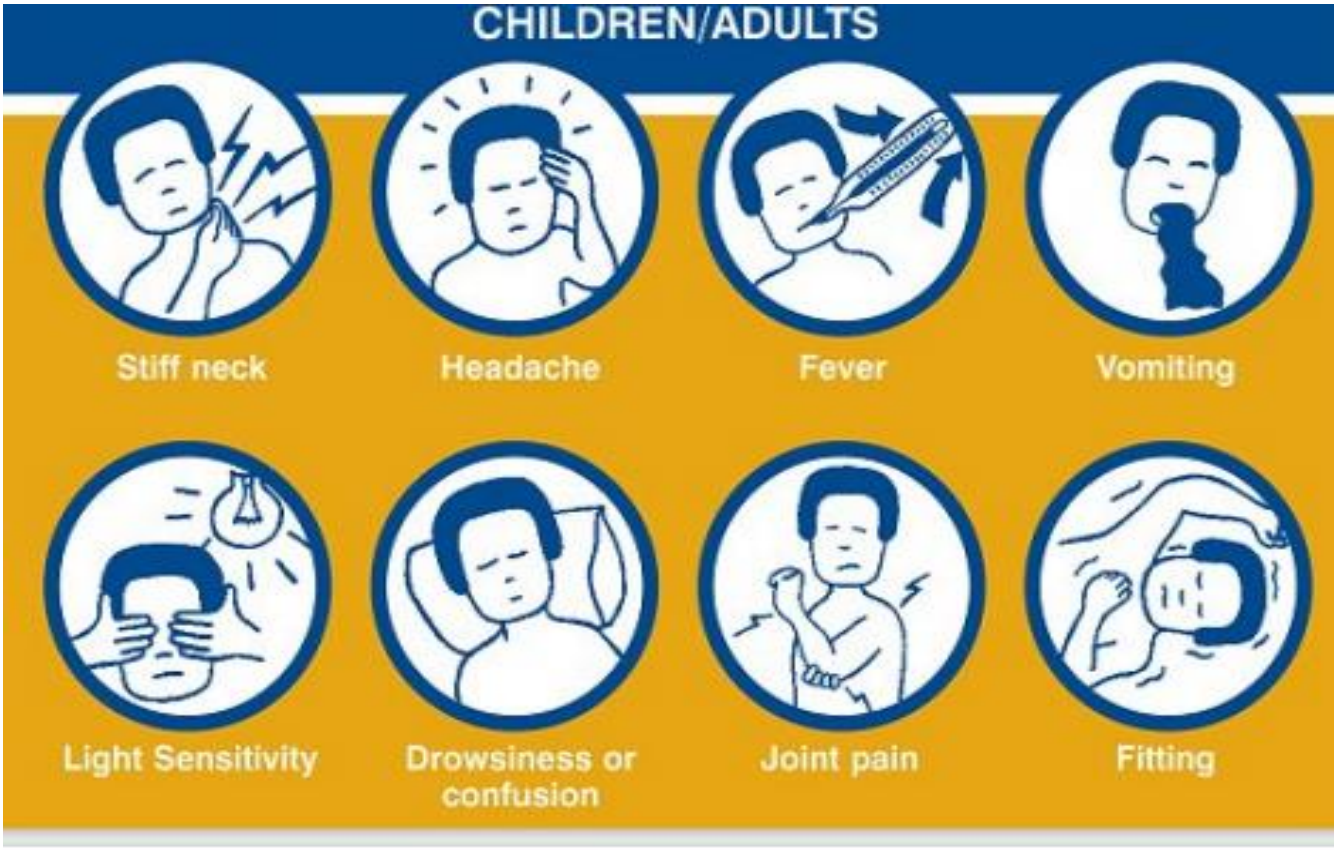
Neck stiffness (unable to touch the chin to the chest)-

.Dislike of bright lights-

.Drowsiness-

The patient may be confused or disorientated. Fitting may also .be seen

.A rash may develop



Kernig signs (flexion of the hip to 90 degree with subsequent pain on .extension of the leg)

Complications

1-peripheral circulatory collapse
2-Recurrent bacterial meningitis
3-Hydrocephalus
4-Subdural effusion
5-Fluid and electrolyte disturbance
6-Ventriculitis
7-Cranial nerve involvement

Nursing management

1-Assess the child's physiological status including neurological status and vital signs at least every 2 to 4 hour
2-Nursing care for fever: Tepid sponging if febrile, hot water bottle if chill, provide additional warmth by blanket if needed and proper ventilation.
3- Control of pain by comfortable position and quiet environment,
4- Control of seizure
5- Control of increase ICP
6- Help child and family during lumber puncture
7-Give special attention to medical management
8- Give special attention for meningitis complications

نشاط اسئلة عن المحاضرة 14+15

اسم النشاط	اسئلة عن المحاضرة السابقة (14+15)
الهدف من النشاط	تنشيط ذاكرة الطلبة وتشجيعهم على المراجعة
ادوات تنفيذ النشاط	جهاز عرض
الية التنفيذ	اختيار طلاب بشكل عشوائي للرد على الاسئلة المعروضة
مدة النشاط	10 دقائق

الاسئلة على جهاز العرض

- Enumerate the neurological diseases?
- What are the type of spina bifida in pediatric?

النشاط 2/2 الاسئلة المتعددة الخيارات

Multiple choice questions (MCQ);

1- a cyanotic heart diseases except one of them:

g) PDA
h) TOF
i) VSD

2- Signs of hydrocephalus include:

g) cough
h) SOB
i) fever

3- meningitis means:

a) Narrowing the great arteries
b) Blood disorder
c) Bleeding disorder