

BULLETIN PHARMACY

**“POISONS AND MEDICINES
ARE OFTENTIME THE SAME
SUBSTANCES GIVEN WITH
DIFFERENT INTENTS”**

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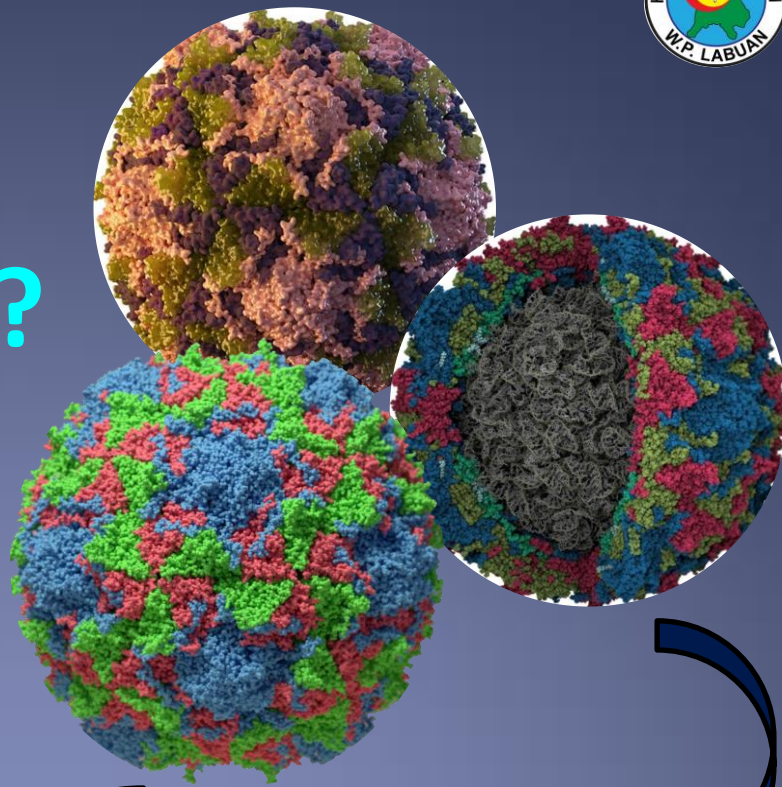
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HAVE YOU HEARD ABOUT POLIOMYELITIS?

What is Poliomyelitis?

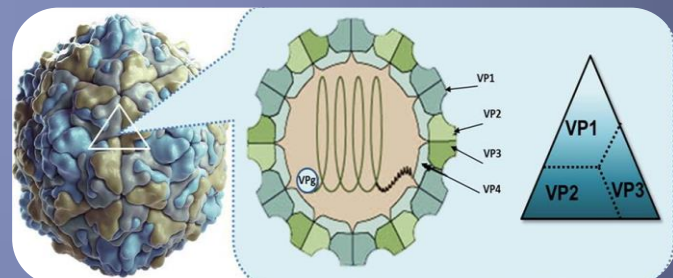
- It is a disabling and life-threatening disease caused by the **poliovirus**.
- Virus spreads from person to person and can infect a person's spinal cord, causes nerve injury leading to paralysis and cause difficulty breathing if attack on respiratory system and sometimes death.
- Polio is the common name for *poliomyelitis* which comes from Greek words, **grey** and **marrow**, referring to the spinal cord, and the suffix **-itis**, meaning *inflammation*.



The **BUGS** known as
**Human enterovirus of
Picornaviridae family**

History of Poliomyelitis

- It is likely that polio has plagued humans for thousands of years.
- An Egyptian carving from around 1400 BCE depicts a young man with a leg deformity similar to one caused by polio.



The virus is composed of a single-stranded, positive-sense RNA genome and a protein capsid.

Types of Polio Virus

- ✓ **Wild polio virus (WPV):** SEROTYPE WPV 1, WPV 2, WPV 3
- ✓ **Sabin virus (OPV)**
- ✓ **Vaccine derived poliovirus :**
 1. Circulating vaccine-derived poliovirus (cVDPV)
 2. Immunodeficiency-related vaccine-derived poliovirus (iVDPV)
 3. Ambiguous vaccine-derived poliovirus (aVDPV)

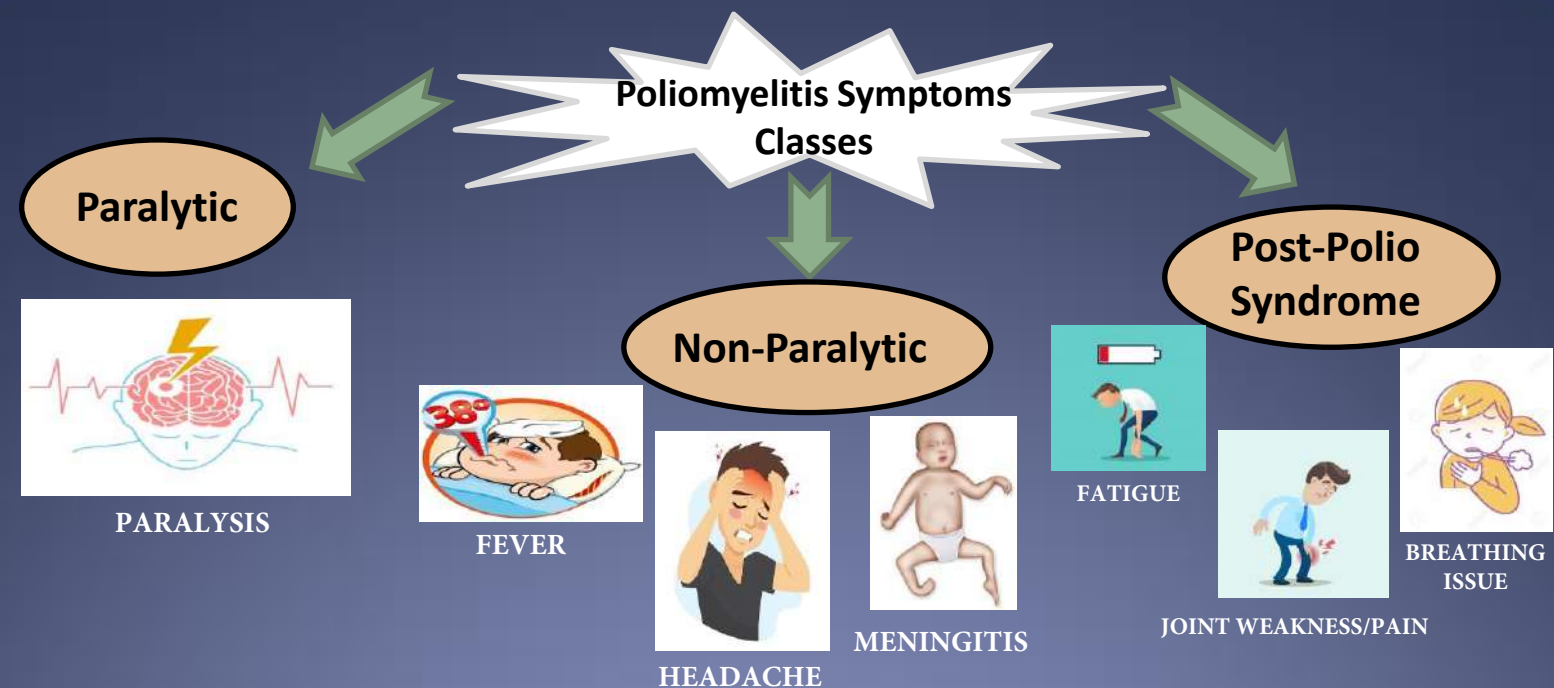
Importation of
virus

Containment break
from laboratory/
vaccine
manufacturing
facilities

Low population
immunity

Poor hygiene as it
is transmitted
through ocal-fecal

Possible
Outbreak
Factors



Polio Treatments

Palliative Treatment

Vaccination as prevention:

- Baby age 2,3,5, and 18 months (given 3 prime dose and 1 booster)
- Adult : those who are going holiday in pandemic country, atleast 4 weeks prior

Types of Polio Vaccine Available

IPV (Inactivated Polio Vaccine)	OPV (Oral Polio Vaccine)
Kill formalised virus/Inactivated Polio virus	Live attenuated Polio virus
Given by injection (2-3 doses)	Four doses in endemic countries (2,3,5, and 18 months of life)
Given intramuscular or subcutaneous	Given orally
Induce circulating antibody and no local immunity	Both humoral and intestinal immunity
Requires a trained health worker	Easily administered and does not require a trained health worker
Not useful in epidemics	Effective in controlling epidemics
Expensive	Cheaper
Does not require stringent conditions during storage and transportation	Required to be stored and transported at sub-zero temperature

Type of polio virus inside the vaccine

- mOPV = WPV2
- bOPV = WPV1+3
- Topv = WPV 1+2+3

Based on WHO, to certified as free polio country they should :-

- ✓ At least three years of zero polio cases due to indigenous wild poliovirus
- ✓ Excellent surveillance
- ✓ Capacity of each country to detect, report and respond to imported polio cases
- ✓ Currently, *wild polio virus* – WPV still highly detected in **Afghanistan, Pakistan dan Nigeria**)

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MELIOIDOSIS

MELIOIDOSIS IS A BACTERIAL INFECTION CAUSED BY GRAM NEGATIVE BACILLUS (*BURKHOLDERIA PSEUDOMALLEI*). IN GREEK, "MELIS" MEANS "DISTEMPER," "OID" MEANS "RESEMBLANCE," AND "OSIS" MEANS "CONDITION."



CLINICAL PRESENTATION:

- Cap (Community-Acquired Pneumonia)
- Septicaemia
- Pyrexia
- Abscess or abscesses in various organs
- Septic arthritis
- Musculoskeletal melioidosis



INVESTIGATIONS RADIOLOGICAL INVESTIGATIONS

- Chest X-ray
- USG abdomen CT Scan



MORTALITY RATE WITH MELIOIDOSIS

- The overall mortality of bacteraemic melioidosis approaches 100% if untreated, but can be reduced to 37-54% with optimal management and aggressive intensive care.
- Localised melioidosis has a much lower mortality rate (4-5%).

HIGH RISK GROUPS

- Diabetes mellitus
- Chronic lung disease, chronic renal failure, liver disease
- Immune suppression disease
- Workers in the agricultural sectors



EPIDEMIOLOGY OF MELIOIDOSIS

- Melioidosis is endemic in Malaysia, Thailand, Singapore and Australia.
- It involves all age groups but commonly occurs in people between the ages of 40 to 60 years old and is related to farming.

MODE OF TRANSMISSION

- Inhalation of contaminated dust (increase number of infection during rainy days).
- Direct entry of the organism into the blood stream via very minor wounds or skin abrasions.
- Aspiration of contaminated water.
- Ingestion of contaminated water.



GENERAL TREATMENT

- Correction of fluids, electrolytes and acid-base imbalances.
- Insulin therapy for diabetic patients.
- Pulse oximetry or arterial blood gases monitoring in severely ill cases when patients may require respiratory support.
- I & D or drainage of abscess. Patient with liver abscesses larger than 5 cm x 5 cm should be referred to an interventional radiologist or surgeon for drainage.
- Standard precaution procedures for infection control should be implemented in the care of these patients.

	TREATEMENT IN ADULT	DURATION
Normal treatment	<ul style="list-style-type: none"> IV Ceftazidime (100 mg/kg a day; usual dose for adult, 2 gm TDS) To consider G-CSF within 72 hours of admission 	-
Localized superficial melioidosis	<ul style="list-style-type: none"> Oral Augmentin (Amoxycillin/ Clavulanate) 2 tab (500/125) tds 	12-20 weeks
Intensive treatment	<ul style="list-style-type: none"> IV Meropenem (25mg/kg/dose; usual dose for adult: 1 gm TDS) May add an adjunct antibiotic; Co-trimoxazole (Trimethoprim-Sulphamethoxazole) 3-4 tab bd + Folic acid 5 mg daily. To consider G-CSF within 72 hours of admission 	For at least 2 weeks
Eradicate treatment	<ul style="list-style-type: none"> Oral Co-trimoxazole (Trimethoprim 8mg/kg/day and Sulfamethoxazole 40mg/kg/day) and Doxycycline (4 mg/kg/day in 2 divided doses per day) (Usual dose 2-4 tab Co-trimoxazole BD and Doxycycline 100mg BD) Or Augmentin (Amoxycillin/Clavulanate 2 tab) TDS (alternative and can be used in pregnant women and those allergic to Co-trimoxazole) 	For 20 weeks



	TREATEMENT IN CHILDREN	DURATION
Intensive treatment	<ul style="list-style-type: none"> IV Ceftazidime 50mg/kg/dose 6 - 8 hourly OR IV Imipenem or Meropenem 25mg/kg/dose 6 - 8 hourly (may be considered in life threatening cases). 	For at least 2 weeks
Eradicate treatment	<ul style="list-style-type: none"> Oral Amoxycillin (20 mg /kg/dose) / Clavulanate - 8 hourly 	For total 20 weeks
Post exposure prophylaxis	<ul style="list-style-type: none"> Cotrimoxazole 2-4 tab bd within 24 hours of high probability of exposure may be considered. Amoxicillin/Clavulanic acid can be use for prophylaxis for those can't tolerate Co-trimoxazole. 	For 3 weeks

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INFLUENZA

Definition of influenza (Flu)

Flu is a contagious respiratory illness caused by influenza viruses that infect the nose, throat, and sometimes the lungs. It can cause mild to severe illness, and at times can lead to death. Flu is different from a cold. Flu usually comes on suddenly. People who have flu often feel some or all of these symptoms:

- Fever or feeling feverish chill
- Sore throat
- Cough
- Runny nose
- Muscle or body ache
- Headaches
- Fatigues
- Vomiting
- Diarrhea

Principle of therapy

Initial management of influenza in adults is based on clinical presentation and epidemiological data.



Symptomatic therapy

Fever and myalgia

- Can be treated with analgesics (non-opioids) and antipyretic (paracetamol).
- Avoid salicylates in children < 18 year old due to risk of Reyes syndrome.

Cough and colds

- Can be treated with mucolytic or expectorant drugs.



Antiviral therapy

Neuraminidase Inhibitors	Oseltamivir	Primary antiviral agent of choice for the treatment of influenza A(H5N1) and A(H7N9) virus infections.
	Peramivir	It is indicated for the treatment of acute uncomplicated influenza in adults who have been symptomatic for no more than 2 days.
	Zanamivir	Effective against both influenza A and B but not recommended for treatment or prophylaxis of influenza in individuals with underlying airway diseases.
M2 Inhibitors	Amantadine and Rimantadine	Should only be considered in H5N1 influenza as a treatment option if with treatment failure after neuraminidase inhibitors.
Cap-dependent endonuclease inhibitors	Baloxavir marboxil	It is indicated as a single, oral, weight-based dose for treatment of acute uncomplicated influenza in adults and adolescents aged 12 years or older who have been symptomatic for less than 48 hours.



Non-pharmacological therapy.

- Rest properly without doing strenuous activity such as running.
- To avoid crowded to reduce transmission.
- Wear mask in public places.
- Frequent hand washing with soap and proper hand washing technique.
- Adequate fluid intake to prevent dehydration.
- If necessary to reduce or stop smoking.

Reference

- <https://emedicine.medscape.com/article/219557-guidelines>
- <https://specialty.mims.com/influenza/treatment?channel=respirology>



PARACETAMOL POISONING

What is paracetamol?

- Since its clinical introduction in 1955, paracetamol has become the most widely used as analgesic and anti-pyretics.
- it has an excellent safety profile when administered in proper therapeutic doses but hepatotoxicity can occur after overdose or misused in at risk population.

Signs and symptoms

- Symptoms over the first 24 hours include anorexia, vomiting and diaphoresis but patient is fully conscious.
- Hepatic enzyme begins to rise 24 hours after ingestion and peak at 72-96 hours, signs and symptoms at this stage include right upper quadrant, jaundice, coagulopathy, confusion, somnolence and coma.

Maximum recommended daily dose

Adult: 4g daily (8 tablets)

Child: 75mg/kg

Minimum toxic doses of paracetamol for single ingestion

Adult: 7.5g-10g (~20 tablets)

Child: 150mg/kg; 200mg/kg in healthy children aged 1-6 years

Management of Paracetamol Poisoning

- In patient who present within 1 hour of ingestion, gastric emptying or lavage should be done.
- Activated charcoal can be used at one stat dose of 1g/kg if within 4 hours of ingestion.
- Patient whose concentration are above toxic level are treated with oral or intravenous of acetylcysteine.
- Patients on enzyme-inducing drugs (eg: carbamazepine, phenobarbitone, phenytoin, rifampicin and alcohol) may develop toxicity at lower plasma paracetamol concentration, they should receive acetylcysteine if their plasma paracetamol concentration are 50% or more of standard value.
- Treatment should be started within 8-10 hours for maximum hepatoprotective effect.
- Intravenous N-Acetylcysteine is given in D5%.
- IV formulation of N-Acetylcysteine is commonly used in many institutions for the treatment of Paracetamol ingestion.

How does paracetamol metabolized in our body?

- Paracetamol metabolism occurs primarily in the liver.
- The principal toxic metabolite of paracetamol, N-acetyl-p-benzoquinone imine (NAPQI) is produced by the hepatic cytochrome P-450 enzyme system, glutathione stores in the liver to detoxify this metabolite.
- Acute overdose depletes glutathione store in the liver. As a result, NAPQI accumulates, causing hepatocellular necrosis and possibly damage to other organs (kidney and pancreas).

Patient Education

- Paracetamol is considered as innocuous OTC drug, hence it is important to advise patients of the potential risks associated with its inappropriate use.
- Educate parents in the proper dosing for children and danger associated with misusing various paracetamol preparations of different concentration.
- Parents should always be given clear dose and formulation instructions based on the age and weight of the child.
- Caregivers should use the dropper or syringe-measuring tools.
- Parents and caregivers must ensure proper storage of medications within the home. This is critical in order to prevent unsupervised access to drugs or other toxic substances by children.

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CONTRACEPTION



Types of contraception:

- Non-hormonal
- Hormonal

Examples of contraception:

Non-hormonal

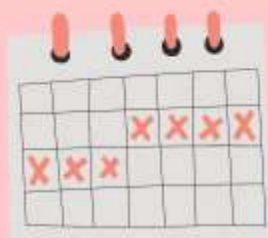
- Male condom
- Female condom
- Intrauterine device
- Calendar rhythm pattern

Hormonal

- Combined Oral Contraceptives (COC)
- Depot contraceptive injections
- Progestin-only Pills (POP)
- Emergency Contraceptive Pills (ECP)

Risk factors increasing risk for thrombotic events:

- Obesity, BMI>30
- Smoking
- Hypertension (contraindicated if age >35 and smokes >15 cigarettes/day)
- Age >35
- Recent pregnancy



45.0%

KNOWLEDGE OF METHODS OF CONTRACEPTION

38.4%
13 - 17 years

53.8%
18 - 24 years

76.1%

81.7%
Condom

87.3%

56.7%

60.8%
Pill

64.9%

32.7%

32.5%
Abstinence

32.2%

33.9%

32.4%
Injection

31.0%

30.9%

29.3%
Rhythm

27.8%

Based on the Fifth Malaysian Population and Family Survey (MPFS-5) 2014, the level of contraceptive knowledge in adolescents is only 45%.

Common available OCPS available in community pharmacies:

a) COCs

- i. Yasmin/Liza
- ii. Yaz/Liz
- iii. Minipil 20
- iv. Marvelon/Regulon

b) POPs

- i. Cerazette/Desirett
- ii. Noriday

c) ECPs

- i. Postinor 2



Contraindications:

- Known or suspected pregnancy
- Very high blood pressure
- Breast cancer
- Past hx of thrombotic events (CI for estrogen, may opt for POPs)
- Patients taking ART, anti-epileptics, rifampicin
- Migraine with aura (CI for estrogen, may opt for POPs)

General administration methods:

- Each pack of COC/POP may contain 21 active pills or 28 pills (21 active and 7 inactive pills).
- If taken on first day of menstrual cycle, contraceptive effect is active.
- The pill is to be taken on the same time daily.
- If taken after first day of menstrual cycle, barrier contraception such as condom is needed until the pill has been taken for 7 consecutive days.
- For packs with 21 pills, it is followed by 7 days of pill-free period before starting next pack.
- For packs with 28 pills, the last 7 days consists of inactive pills which do not have any hormone.



Missed a pill?

- If you missed 1 pill (less than 24 hours), take it as soon as you remember and take your daily pill on the usual time. Continue your pack, extra contraception is not needed.
- If you missed 2 pills or more, take the last pill you missed and your daily pill on the usual time. Extra contraception is needed until the pill has been taken for 7 consecutive days. If there are more than 7 pills in the pack, continue the pack with the inactive pills/pill-free period. If there are less than 7 pills in the pack, skip the pill-free period/inactive pills and start a new pack.



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STRAWBERRY NAEVUS



What is Strawberry Naevus ?

- Strawberry Naevus or Capillary Hemangioma is noncancerous growths of blood vessels and common type of birthmark that the red tinge of skin comes from a collection of blood vessels close to the skin's surface .
- They are sometimes called strawberry naevus because of their bright, red strawberry colour. One in 15 babies will develop a haemangioma. Some children can have more than one haemangioma.

Is it dangerous?

- Haemangiomas usually appear in early infancy and don't cause any problems, and will often shrink away over a few years even if they are not treated.
- However, sometimes they cause problems including ulceration, scarring, blindness and disfigurement.

TYPES OF STRAWBERRY NAEVUS

SUPERFICIAL HEMANGIOMAS



Have been called "strawberry marks," because they can resemble the surface of berries. They may begin as small white, pink, or red areas on the skin that quickly change into brighter red, raised lesions. Superficial hemangiomas may be focused in one spot or spread out over a larger area.

DEEP HEMANGIOMAS



Have a smooth surface and form under the skin. They may have a bluish tint and resemble bruises. Some cause the skin to look swollen.

MIXED HEMANGIOMAS



They are a combination of superficial and deep growths.

MOST COMMON LOCATION OF STRAWBERRY NAEVUS



Face



Scalp



Back



Chest

WHAT PROBLEMS CAN HAPPEN?

A Hemangioma may cause problems by:

Blocking vision or eye movements

Breaking down the skin surface (ulceration)

Reducing air flow through the nose and mouth

Having enough blood flowing through it to put a strain on the baby's heart

Bleeding

Affecting the child's appearance

TREATMENTS AVAILABLE FOR STRAWBERRY NAEVUS

Systemic Treatments

Propranolol

a beta blocker medication used for many years to treat high blood pressure, is now commonly given by mouth as an effective treatment for problem hemangiomas. To avoid a growth rebound, the pediatrician may recommend therapy continue until your child's first birthday. The drug must be used with close observation by your healthcare provider to watch for possible side effects and complications.

Localized Treatments

Topical medications

applied directly on the skin may be used for small, superficial hemangiomas. Prescription creams or ointments containing beta-blockers are the most effective topical treatment option to help stop growth and sometimes shrink and fade hemangiomas. In some cases, steroid creams may be prescribed for smaller, thinner hemangiomas.

Steroid injections

can be given directly into the hemangioma to help slow its growth. This works best for smaller, localized hemangiomas.

Other Treatments

Surgery

is usually only considered for smaller hemangiomas in areas where they may cause problems, or for small hemangiomas with broken skin. Because surgery will always leave a scar itself--and because most hemangiomas get better with time--early surgery is only recommended for a small minority of cases. Surgery can also repair extra skin or scars left by a hemangioma, but usually is delayed until a child is between 3 and 5 years old.

Laser treatment

stop bleeding or to help heal hemangiomas with open sores (ulcers). They can also help to remove some of the redness or texture changes that may be left behind after the hemangioma improves.

Oral steroids

have been largely replaced by safer and more effective options, but are still used in select cases, determined by the healthcare provider.

CHOLERA



-cholera is an acute, diarrheal illness caused by infection of the intestine with the toxigenic bacterium *Vibrio cholerae* serogroup O1 or O139



-Estimated 2.9 millions cases and 95,000 deaths occur each year around the world. Sabah become the high rate compared to other state (for the past 5 years)

CHOLERA FACTOR

Contaminated vegetables



Non hygienic food vendor



undercooked fish



Tap water



Unboiled ice cube



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WHO EXPOSED?

MEDICAL PRACTITIONER



TRAVELLER



POOR HYGIENE



MODE OF TRANSMISSION

- A PERSON CAN GET CHOLERA BY DRINKING WATER OR EATING FOOD CONTAMINATED WITH CHOLERA BACTERIUM
- CHOLERA DISEASE IS NOT LIKELY TO SPREAD DIRECTLY FROM ONE PERSON TO ANOTHER, THUS CASUAL CONTACT WITH AN INFECTED PERSON IS NOT A RISK FOR BECOMING ILL

COMMON SIGN AND SYMPTOMS



SUDDEN ONSET OF DIARRHEA



NAUSEA AND VOMITING



FEVER



RAPID WEIGHT LOSS



FAST HEART BEAT



DRY MOUTH



DIZZINESS



LOW BLOOD PRESSURE

PREVENTION



WASH HAND WITH SOAP



ALWAYS PRACTISE GOOD HYGIENE



GET VACCINATION



ALWAYS COVER FOOD



COOK FOOD PROPERLY

TREATMENT



ORAL REHYDRATION SALTS



INTRAVENOUS FLUID REHYDRATION



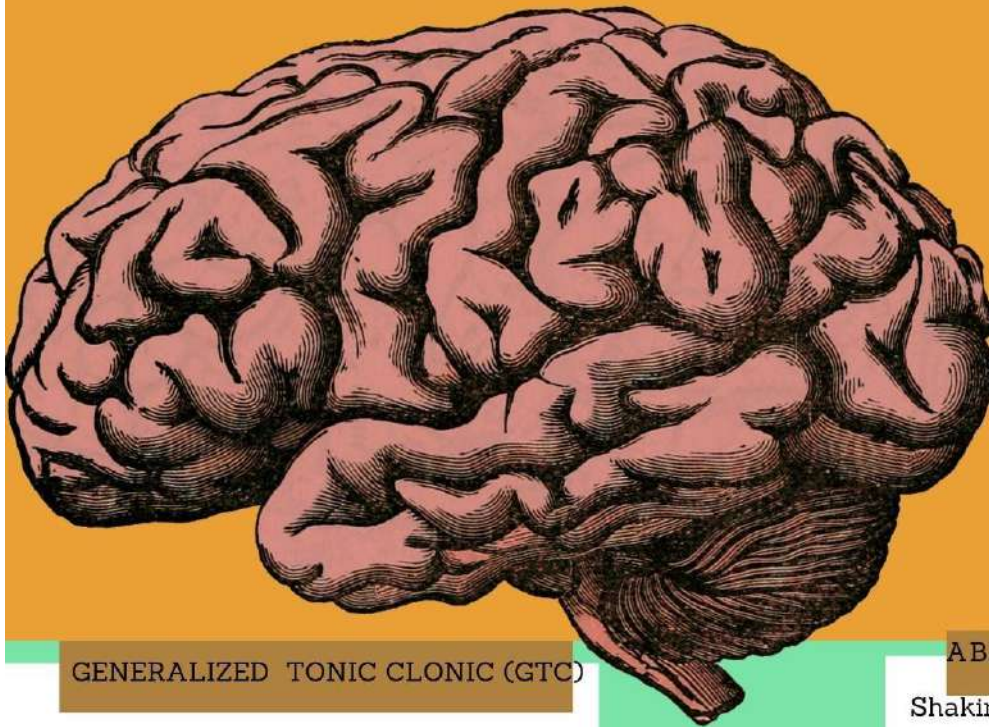
ANTIBIOTICS



ZINC SUPPLEMENTS

SEIZURE

WHAT IS SEIZURE



- The brain contains billions of neurons (nerve cells) that create and receive electrical impulses.
- Electrical impulses allow neurons to communicate with one another.
- During a seizure, there is abnormal and excessive electrical activity in the brain.
- This can cause changes in awareness, behavior, and/or abnormal movements. This activity usually lasts only a few seconds to minutes.

GENERALIZED TONIC CLONIC (GTC)

The child loses consciousness, may stiffen, have jerking muscle movements. During the muscle stiffening, the child may bite their tongue or cheek, causing bleeding or frothing at the mouth.

SIMPLE PARTIAL SEIZURE

Cause "sensations" that only the child feels. As an example, one type of seizure can cause stomach discomfort, fear, or an unpleasant smell. These feelings are due to focal seizures without impairment of awareness (simple partial seizures), commonly referred to as auras. A child usually experiences the same symptoms with each seizure aura. Sometimes, a seizure aura can occur before a convulsive seizure.

ABSENCE SEIZURES OR FOCAL (PARTIAL) SEIZURES

Shaking movements may be isolated to one arm, leg or part of the face. The child may suddenly stop responding and stare for a few seconds, sometimes with chewing motions or smacking the lips. Depending on the type of SEIZURE and ECG findings, these may be either absence seizures or focal (partial) seizures depending on whether the child remains aware.

AFTER A SEIZURE (POSTICTAL STATE)

With some types of seizures, the child may appear to be awake during the seizure, but is actually unaware and will have no memory of the event. During this time, the child may be confused and tired, and may develop a throbbing headache. This period usually lasts several minutes, although it can last for hours or even days.

TYPE SEIZURE

TREATMENT

ALPRAZOLAM



CLONAZEPAM



LEVETIRACETAM



SODIUM VALPROATE



PHENYTOIN



GABAPENTIN



HOW TO STOP

Most children who are treated with antiseizure drugs continue taking them until there have been no seizures for two years. After two years of being seizure-free, the chance of having another seizure is reduced to 30 to 40 percent. Antiseizure drugs should be tapered slowly. This may mean the dose is reduced on a weekly basis over several months.

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3. <https://www.stanfordchildrens.org/en/topic/default?id=seizures-and-epilepsy-in-children-90-P02621>

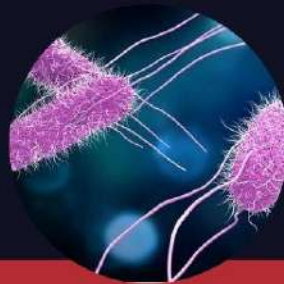
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HEMOLYTIC UREMIC SYNDROME

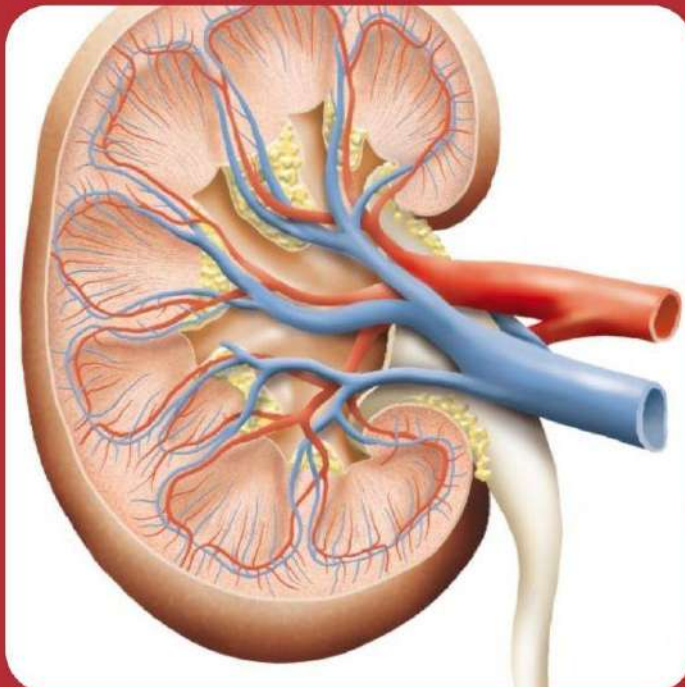
BLOOD AND BLOOD VESSEL DISEASE

Condition results in the destruction of blood platelets (cells involved in clotting), a low red blood cell count (anemia) and kidney failure due to damage to the very small blood vessels of the kidneys and may cause damage to other organ too such as brain or heart

E.COLI SP.



S. PNEUMONIAE,
SP.



SHIGELLA SP.



SALMONELLA
SP.

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- <https://www.mayoclinic.org/diseases-conditions/hemolytic-uremic-syndrome/symptoms-causes/syc-20352399>
- https://en.wikipedia.org/wiki/Hemolytic%E2%80%93uremic_syndrome

MODE OF TRANSMISSION

Through contaminated food and water

CLINICAL SYNDROME

THE COMPLICATION OF HUS

- Anemia (microangiopathy hemolytic anemia)
- Acute kidney injury
- thrombocytopenia
- Hypertension

SIGN AND SYMPTOMS



DIARRHEA



STOMACH PAIN



FEVER



LOW BLOOD

1. FLUID AND ELECTROLYTE TREATMENT- IN PATIENTS WITH SEVERE FLUID LOADING, FUROSEMIDE MAY BE TRIED

DIALYSIS

BLOOD OR PLATELETS TRANSFUSION



MEDICATION

HYPERTENSIVE- THE FIRST-LINE DRUGS IN ANTIHYPERTENSIVE TREATMENT IN THE ACUTE PERIOD OF THE DISEASE ARE CALCIUM CHANNEL BLOCKERS; NIFEDIPINE OR AMLODIPINE.

ECULIZUMAB: ECULIZUMAB IS A MONOCLONAL C5 ANTIBODY WHICH INHIBITS COMPLEMENT ACTIVATION AND USED IN TREATMENT OF COMPLEMENT-RELATED HUS. IT CAN BE USED IN CASES OF STEC-HUS WITH NEUROLOGICAL INVOLVEMENT.

Major Depression Disorder!

A medical condition that goes beyond everyday sadness. Depression may cause serious, long lasting symptoms and often disrupts a person's ability to perform routine task

PREVALENCE :

- The prevalence of major depressive disorder in MALAYSIA is between **8 - 12%**

WHO reported that suicide is the second leading cause of **DEATH** among 15 - 29 years age group

- Women had higher rates 2 times more of depression than men

SYMPTOMS

- Depressed mood
- Slowed movement speech or thinking
- Sleep disturbance
- lost interest in pleasurable activities
- Guilt feelings or hopelessness
- Decreased Energy
- Trouble concentrating
- Appetite changes
- Suicidal thoughts or attempts

TREATMENT

Depression, even the most severe cases can be treated. It may take some trial and error to find the best treatment that works best for you

MEDICATIONS



PSYCHOTHERAPY

COMBINATION

MEDICATION

ESCITALOPRAM



DULOXETINE



MIRTAZAPINE



VORTIOXETINE



CLOMIPRAMINE



AMITRIPTYLINE

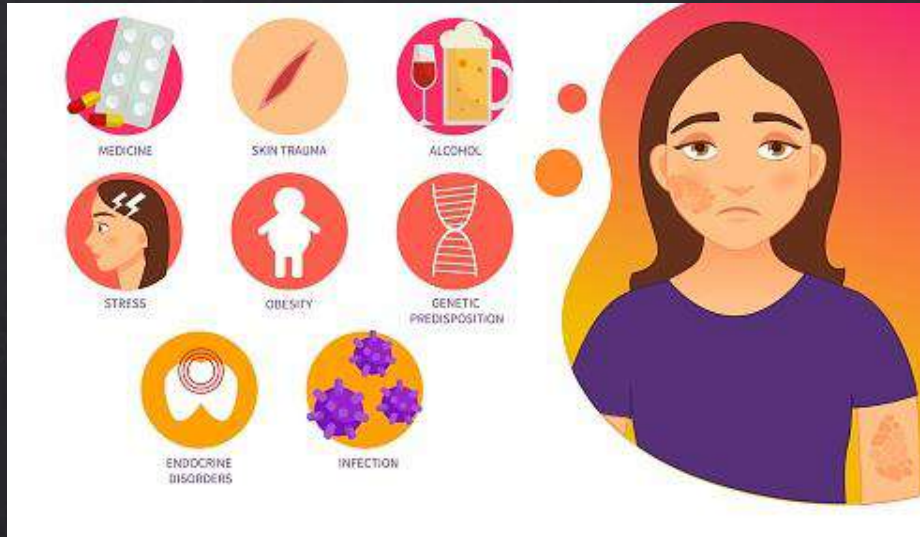


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4. MUKHTAR F OTP. REVIEW ON THE PREVALENCE OF DEPRESSION IN MALAYSIA. CURRENT PSYCHIATRY REVIEWS. 2011;7(3):1-5.

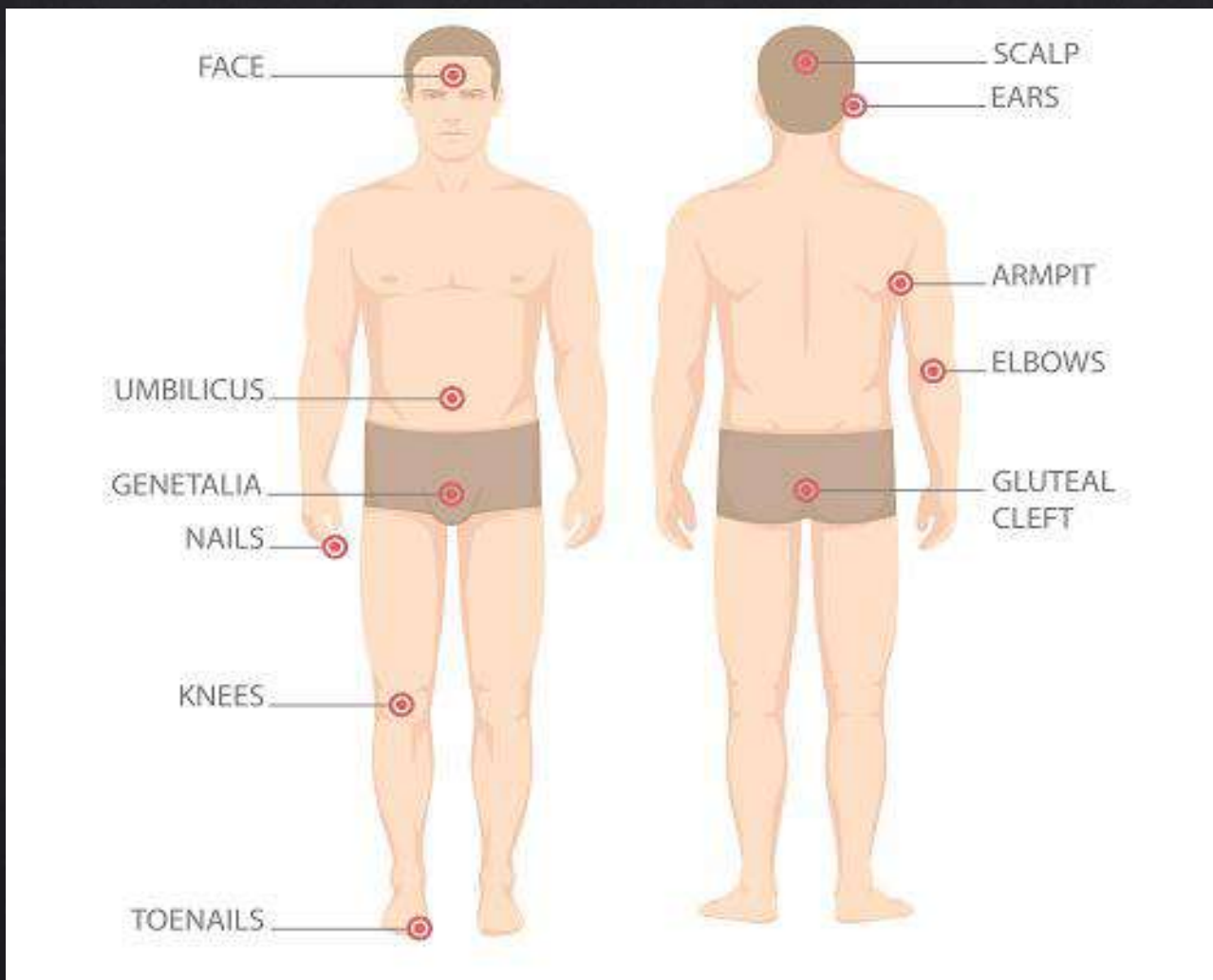
WHAT IS PSORIASIS??

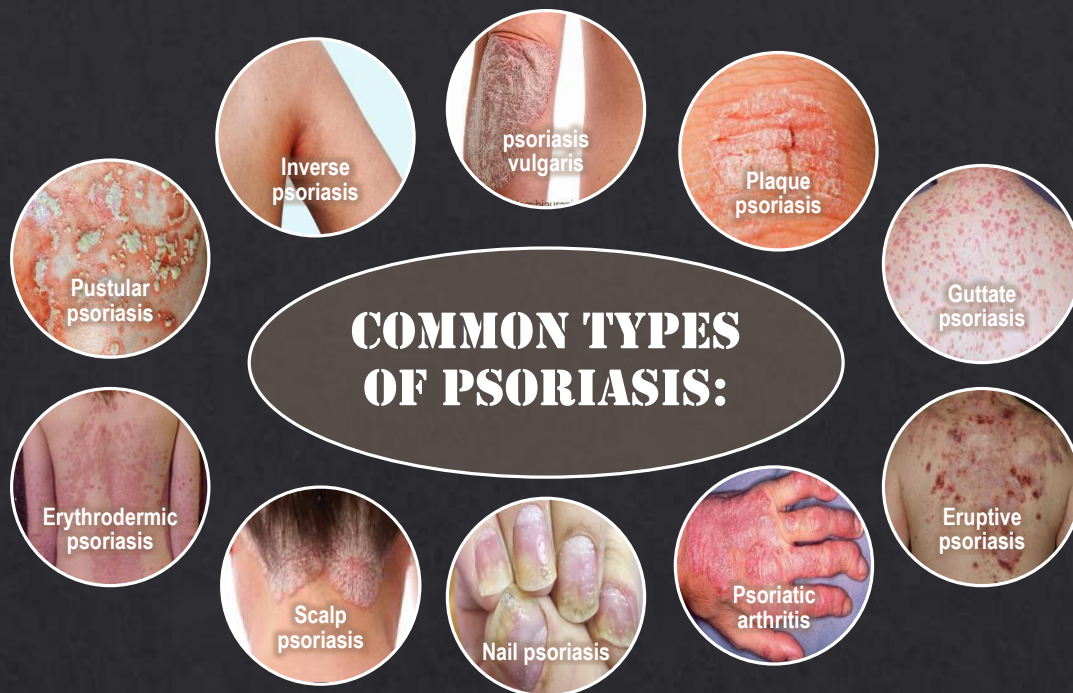
Psoriasis is a complex, chronic, multifactorial, inflammatory disease that involves hyperproliferation of the keratinocytes in the epidermis, with an increase in the epidermal cell turnover rate.



CAUSES OF PSORIASIS

COMMON LOCATION OF PSORIASIS





Treatment is based on

surface areas
of
involvement

body site(s)
affected

the presence
or absence of
arthritis

the thickness
of the plaques
and scale

TOPICAL THERAPY



Corticosteroids

- An ideal anti-inflammatory agent to reduce swelling and redness caused by plaques.



Vitamin D analogues

- Synthetic forms of vitamin D, such as calcipotriene and calcitriol (Vectical) slow skin cell growth



Retinoids

- Tazarotene (Tazorac, Avage) is available as a gel and cream and applied once or twice daily



Calcineurins inhibitors

- Reduce inflammation and plaque buildup. helpful in areas of thin skin, such as around the eyes



Salicylic acid

- Reduce the scaling of scalp psoriasis. It may be used to enhance the ability of other medications to more easily penetrate the skin.



Coal tar

- Coal tar reduces scaling, itching and inflammation.



Goeckerman therapy

- Combination of coal tar treatment and light therapy. More effective because coal tar alone makes skin more receptive to UVB light

LIGHT THERAPY

Light therapy is a first-line treatment for moderate to severe psoriasis, either alone or in combination with medications. It involves exposing the skin to controlled amounts of natural or artificial light.



ORAL AND INJECTED MEDICATIONS

Retinoids



- Acitretin (Soriatane) and other retinoids are pills used to reduce the production of skin cells. Side effects might include dry skin and muscle soreness.

Methotrexate



- Usually administered weekly as a single oral dose, methotrexate (Trexall) decreases the production of skin cells and suppresses inflammation.

Cyclosporine



- Taken orally for severe psoriasis, cyclosporine (Neoral) suppresses the immune system. **Cannot be used continuously for more than a year.**

Biologics



- Alter the immune system in a way that disrupts the disease cycle and improves symptoms and signs of disease within weeks. Examples include etanercept (Enbrel), infliximab (Remicade), adalimumab (Humira), ustekinumab (Stelara), secukinumab (Cosentyx) and ixekizumab (Taltz)

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3. Psoriasis.org. available from: <https://www.psoriasis.org/treatments-for-psoriatic-disease/>
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GLUCOCORTICOIDS-INDUCED CUSHING SYNDROME

Corticosteroids are available in a variety of form for a variety of purpose and some may regard as a **miracle drug**. Example of such formulations include



Creams: Bethamethasone 17-valerate



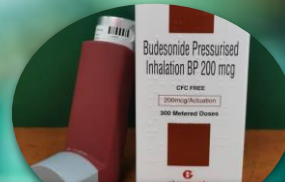
Tablets: Dexamethasone, Prednisolone



Injections: Hydrocortisone Sodium Succinate

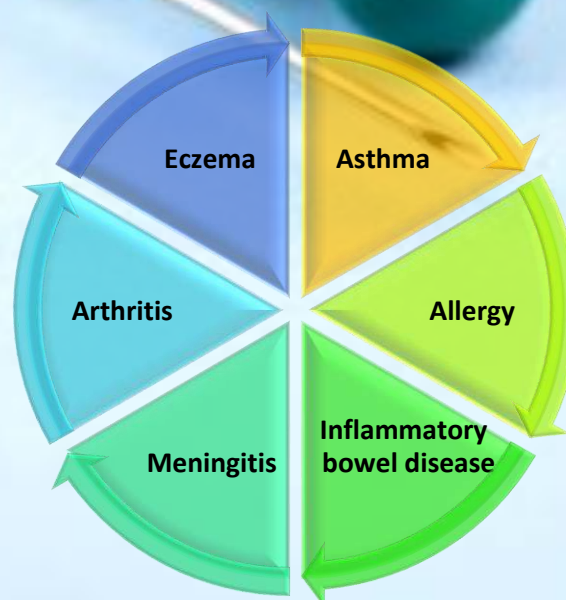


Eyedrops: Dexamethasone + Neomycin + Polymyxin B Sulphate eyedrops



Inhalers: MDI Budesonide

Glucocorticoids, a sub-class under corticosteroids are one of the most prescribed drugs worldwide due to their role in **inflammatory and autoimmune diseases** such as :-



In the recent **RECOVERY trial for COVID 19**, corticosteroid is also potentially beneficial in reducing mortality in patients requiring mechanical ventilation or oxygen.

However as with most drugs, there will be certain **side effects** which may arise. These include:

Immuno-suppression
leading to
increased risk
of infections

Raise fasting
blood glucose
leading to
glycemic
control
difficulty in
diabetic
patients

Cushing
syndrome

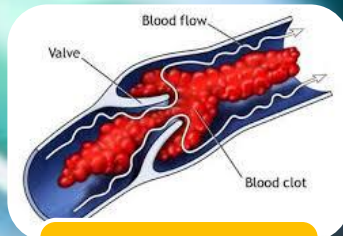
Long term
treatment
leading to
glucocorticoid
s-induced
osteoporosis

Gastritis

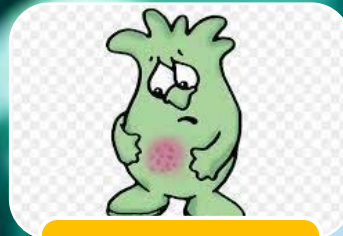
CUSHING SYNDROME MAY LEAD TO COMPLICATIONS SUCH AS :



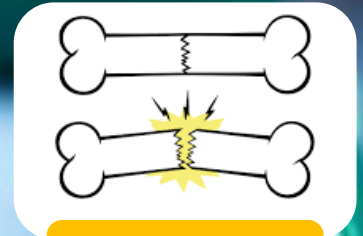
Heart attack
and stroke



Blood clots in the
legs and lungs



Infections



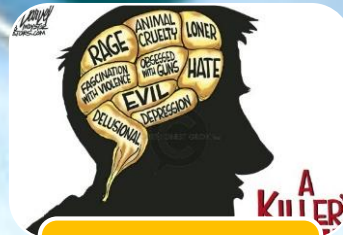
Bone loss
and fractures



High blood pressure



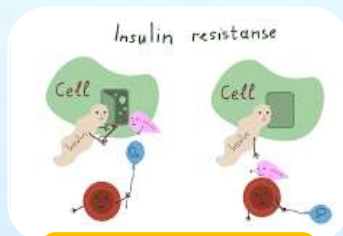
Unhealthy
cholesterol levels



Depression



Memory loss or
trouble
concentrating



Insulin
resistance and
prediabetes



Type 2 diabetes

Manifestations of Cushing Syndrome may occur due to excessive production of cortisol or excessive and long-term oral/parenteral glucocorticoid use which has similar activity to cortisol.

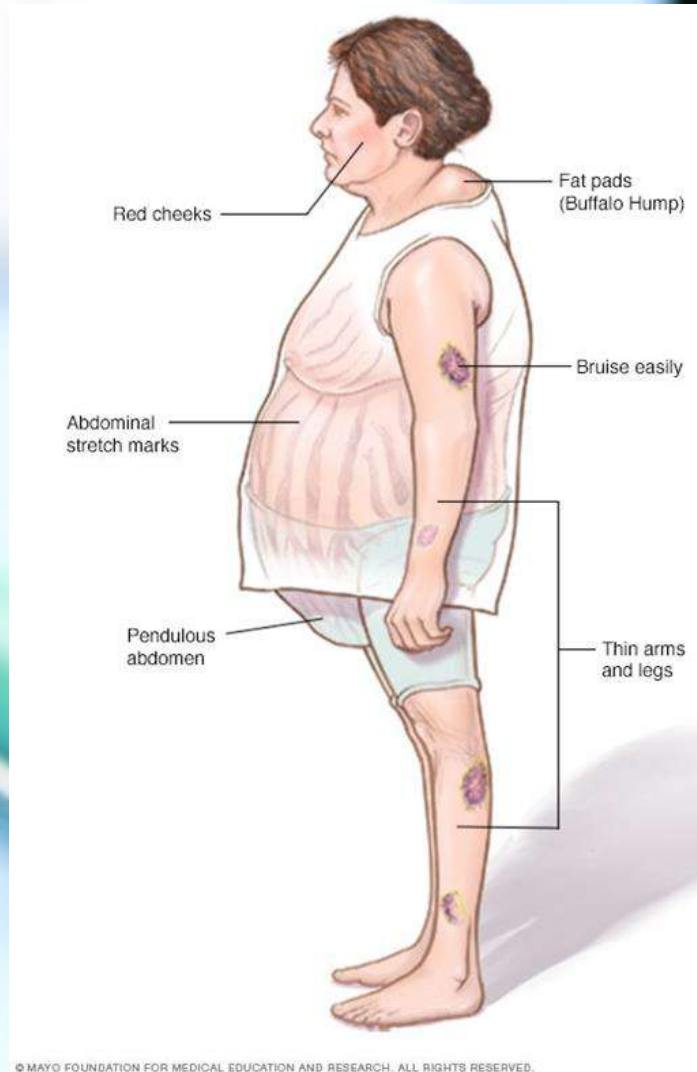


Figure 1: Manifestations of Cushing Syndrome ⁴

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