

Dermatology Videos by Dr Riham

× Can be one of 4 broad lines:

Maculopapular (blanchable rash)	Vesicular rash (Oozing, crusting, punched out)	Non blanching rash	Skin blistering lesions
• Measles • Rubella • Roseola infantum • Erythema infectiosum • Scarlet fever • Kawasaki • Post covid (PMIS) • Drug induced • Other systemic disease • SLE	• Chicken pox • Herpes zoster • Herpes simplex • Impetigo • Scabies • Hand foot and mouth • Eczema Herpeticum	• ITP • HSP • HUS • Meningococcaemia • Leukaemia • NAI	• SSSS • TEN • Stevens Johnson • Epidermolysis bullosa • Eczema

❑ Description of the video:

- Personal description: name, age, sex, setting (home, clinic or hospital).
- WAW: (well, active, alert, well communicating or not).
- 4 Ds

❑ Description of the Rash:

- site, distribution, colour, itchy or not, painful or not, oozing, crusting, punched out lesion or not.

❑ History:

- OCD, what increase & what decrease.
- Associated with fever? If yes which started first & distribution & sequence of rash.
- Family hx of similar condition.
- F W A SL.
- Eye, mouth, L.N enlargement, joints.
- Vaccination status.
- Hx of drug intake.
- Covid vaccination & exposure.
- Hx of travel.
- Hx of preceded URTI.
- Hx of chronic condition & allergy.

❑ EXAMITATION:

- Examination of the rash including **glass test**.
- General condition of the child, vitals & hydration status
- Then: other systems according to the case (CVS in Kawasaki, abdomen in leukaemia, chest in covid, neurological exam & GCS in meningococcaemia).

Maculopapular blanchable rash

Measles:

Caused by measles virus (RNA virus)

- Incubation period: 8-21 days
- Infectivity period: 4 days before and 4 days after the rash appears. (Highly contagious)

× The first prodromal symptoms of measles:

- high temperature
- runny or blocked nose
- sneezing.
- cough.
- red, sore and watery eyes.

× Koplik spots:

- Small white spots may appear inside the cheeks and on the back of the lips.
- Maybe raised and join together to form blotchy patches.
- Not itchy.

× Measles Rash:

- Looks brown or red on white skin.
- Flat red spots that appear on the face, behind the ears, at the hairline and spread downward to the neck, trunk, arms, legs and feet.
- Small raised bumps may also appear on top of the flat red spots.

❑ Complications of measles: (2ry bacterial infection due to altered immunity)

- Pneumonitis, Pneumonia, measles croup.
- OM.
- Meningitis.
- Keratoconjunctivitis → Blindness.
- Seizures (fits).
- ADEM after 2 w & SSPE after 7-10 y. Subacute sclerosing panencephalitis

❑ Diagnosis: Acute disseminated encephalomyelitis

- By clinical picture, confirmed by: **Oral Fluid** sample tested for the virus (by PCR), IgM and IgG.
- Contact's **serum** tested for IgM and IgG to assess immunity.

❑ Management: isolation, notification, admission if severe, mainly supportive.

- Notify the local health protection team.
- Supportive care: Rest- drink plenty of fluids to avoid dehydration – antipyretic (paracetamol or ibuprofen) but not aspirin under 16 yrs. (risk of Reye's Syndrome).
- If severe give **vit. A**.
- Treatment of complications (especially eye care).
- **Post-Exposure Prophylaxis (within 72 hours from contact):**
- **Immunocompromised:** given IVIG.
- **Non-immune Children > 8 m or 6-8m with non-household contact:** give a dose of MMR.
- **Pregnant and Children <6m or 6-8 m with household contact:** give HNIG (human normal immunoglobulin).

❑ Prevention: MMR vaccine (2 doses). (1st birthday and preschool= 15 m + 3 y and 4 m)

❑ Advice:

- Stay off nursery, school, or work for at least 4 days from when the rash first appears.
- Also try to avoid close contact with high risk groups: (babies, people who are pregnant and people with weakened immune systems).



Rubella (German measles):

Caused by Rubella Virus (RNA Virus)

❑ Symptoms:

- The main symptom of rubella is a spotty rash that it starts on the face or behind the ears and spreads to the neck and body.
- The rash takes 2 to 3 weeks to appear after getting rubella.
- The rash looks red or pink on white skin.
- Aching fingers, wrists or knees
- High temperature
- Coughs
- Sneezing and Runny nose
- Headaches
- Sore throat
- Sore & Red eyes



It's very unlikely to be rubella if you have had both doses of the MMR vaccine or had rubella before.

It can be harder to see on brown or black skin, but might feel rough or bumpy.



You might also have lumps (swollen glands) in your neck or behind your ears.

❑ How to avoid spreading rubella:

- Rubella spreads in coughs and sneezes.
- It's infectious from 1 week before the symptoms start and for 5 days after the rash first appears.

❑ Advice:

- stay off nursery, school, or work for 5 days after the rash appears.
- try to avoid close contact with anyone who is pregnant.
- wash your hands often with soap and warm water.
- use tissues when you cough or sneeze.
- throw used tissues in the bin.
- do not share cutlery, cups, towels, clothes, or bedding.
- get plenty of rest
- drink lots of fluids, like water or squash
- take paracetamol or ibuprofen if you're uncomfortable – do not give aspirin to children under 16.

Roseola infantum (6th disease)

Caused by HHV 6 (DNA Virus)

❑ Symptoms:

× These symptoms last 3 to 5 days, before a rash appears.

- a sudden high temperature
- cold-like symptoms such as a sore throat, runny nose and a cough
- loss of appetite
- swollen eyelids and swollen glands in their neck

× The rash:

- is made up of pinkish-red spots, patches or bumps
- starts on the chest, tummy and back, before spreading to the face, neck and arms
- is not usually itchy or uncomfortable
- normally fades and disappears within 2 days



❑ Treatment & advice:

- let your child rest if they feel unwell
- make sure they drink lots of fluids
- give them children's paracetamol or children's ibuprofen if a high temperature makes them feel uncomfortable – check the dose on the bottle

❑ Don't

- do not cover them up in too many clothes or bedclothes.
- do not give aspirin to under-16s.
- do not combine ibuprofen and paracetamol, unless a GP tells you to.
- do not give paracetamol to a child under 2 months.
- do not give ibuprofen to a child under 3 months or under 5kg.
- do not give ibuprofen to children with asthma.

❑ Red flags to seek medical advice:

- is under 3 months old and has a temperature of 38C or higher.
- is 3 to 6 months old and has a temperature of 39C or higher.
- has a high temperature that's lasted for 5 days or longer.
- is refusing fluids or feeds.
- is not their usual self and you're worried.
- has a high temperature that does not come down with paracetamol or ibuprofen.
- is showing signs of dehydration – such as nappies that are not very wet, sunken eyes, and no tears when they're crying.

❑ Call ambulance immediately if:

- Become confused, slurred speech,
- Blue or pale, blotchy skin, lips and tongue
- Difficulty in breathing or breath high 4. The rash become not fading in pressure.

Erythema infectiosum (5th disease or Slapped Cheek Syndrome)

caused by parvovirus B19

The first sign of slapped cheek syndrome is usually feeling unwell for a few days.

☐ Symptoms may include:

- high temperature
- runny nose and sore throat
- headache.

☐ Rash:

- A red rash may appear on 1 or both cheeks. It may be less obvious on brown and black skin.
- A few days later, a spotty rash may appear on the chest, arms and legs. The rash can be raised and itchy. It may be harder to see on brown and black skin.



☐ How long it lasts:

- The cheek rash usually fades within 2 weeks.
- The body rash also fades within 2 weeks, but sometimes lasts for up to a month, especially if you're exercising, hot, anxious or stressed.
- The virus spreads to other people, surfaces or objects by coughing or sneezing near them.

☐ Treatment & advice:

- rest
- drink plenty of fluids to avoid dehydration & Babies should continue their normal feeds.
- take paracetamol or ibuprofen for a high temperature, headaches or joint pain.
- use moisturizer on itchy skin.
- speak to a pharmacist about itchy skin – they can recommend the best antihistamine for children.
- do not give aspirin to children under 16.

☐ To reduce the risk of spreading the virus:

- wash your hands often with water and soap
- use tissues to trap germs when you cough or sneeze
- bin used tissues as quickly as possible.

☐ Red flags to urgently seek medical advice if:

- you have a blood disorder, such as sickle cell disease or thalassaemia, there's a risk of severe anaemia.
- you have a weakened immune system – for example, because of chemotherapy or diabetes.
- very pale skin.
- shortness of breath.
- extreme tiredness.
- Fainting.

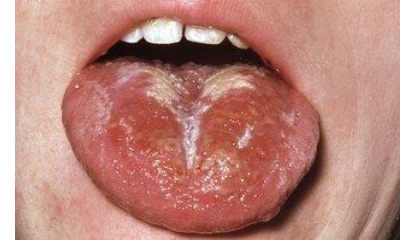
These can be signs of severe anaemia and you might be sent to hospital for a blood transfusion.

Scarlet fever

Bacterial infection caused by *Streptococcus pyogenes*, which is also called group A *Streptococcus*

❑ Symptoms:

- The first signs of scarlet fever can be flu-like symptoms, including a high temperature, a sore throat and swollen neck glands (a large lump on the side of your neck).
- A rash appears 12 to 48 hours later. It looks like small, raised bumps and starts on the chest and tummy, then spreads. The rash makes your skin feel rough, like sandpaper. (Rash looks pink or red sandpaper like)
- A white coating also appears on the tongue. This peels, leaving the tongue red, swollen and covered in little bumps (called "strawberry tongue").
- The rash does not appear on the face, but the cheeks can look red.



❑ When to seek medical advice?

- have scarlet fever symptoms.
- do not get better in a week (after seeing a GP).
- have scarlet fever and chickenpox at the same time.
- are ill again, weeks after scarlet fever got better – this can be a sign of a complication, such as rheumatic fever.
- are feeling unwell and have been in contact with someone who has scarlet fever.

❑ Complications: They can happen during or in the weeks after the infection, and can include:

- ear infection.
- throat abscess.
- sinusitis.
- pneumonia.
- meningitis.
- rheumatic fever.
- Post-streptococcal glomerulonephritis.
- PANDA (paediatric autoimmune neuropsychiatric disorder associated with streptococcal infection).

❑ Treatment:

▪ Non-medical (+ same advice to all rashes before)

- drinking cool fluids.
- eating soft foods if you have a sore throat.

▪ Medical:

- taking painkillers like paracetamol to bring down a high temperature (do not give aspirin to children under 16).
- using calamine lotion or antihistamine tablets to ease itching.
- Antibiotics (oral penicillin & if sensitive give macrolides).

❑ How long scarlet fever lasts:

- Scarlet fever lasts for around 1 week.
- You can spread scarlet fever to other people up to 6 days before you get symptoms until 24 hours after you take your 1st dose of antibiotics.
- If you do not take antibiotics, you can spread the infection for 2 to 3 weeks after your symptoms start.

❑ If you or your child has scarlet fever, stay away from nursery, school or work for 24 hours after you take the 1st dose of antibiotics.

Kawasaki disease (Paediatric guidelines 2022-24 book: page 215)

❑ **Complete Kawasaki:** Fever (for 5 days or more) + 4 of:

1. **Conjunctivitis:** bilateral non purulent.
2. **Oral changes:** red lips/pharynx/tongue.
3. **Peripheral edema:** Erythema of palms and soles, followed by desquamation 10 -14 Ds
4. **Rash:** polymorphous with no vesicular no crust.
5. **LN:** acutely enlarged cervical LNs > 1.5 cm.



❑ **Incomplete Kawasaki:**

1. Children with fever = or > 5 days + 2 or 3 criteria.
2. Infants with fever = or > 7 days + other explanation.

- CRP < 30 and ESR < 40, if fever persist: serial lab and clinical FU, if peeling >> Echo.

- CRP=or > 30 and ESR = or > 40, treat if: anaemia – PLT =or> 450000 after D7 fever – WBCs > 15000 – elevated ALT - Alb < 30g/L – Urine =or> 10000wbc/microliter.

❑ **Other features:**

- Most common in children aged <5 yrs., peak 18–24 months.

❑ **Atypical Kawasaki:** May not fulfil all the above criteria.

1. if fever <5 days but 4 signs above.
2. persistent raised CRP and no other diagnosis and suspicion of Kawasaki disease.
3. fever usually precedes the other signs, unresponsive to antipyretics.
4. common features: irritability, erythema of BCG site.
5. other features include aseptic meningitis, uveitis, cough, vomiting, diarrhoea, abdominal pain, urethritis, arthralgia and arthritis – examine for aneurysms in other areas e.g., axillary.

❑ **High risk factors:**

1. Age < 1 Y – Shock – Coronary or peripheral aneurysm – Features.
2. Failed IVIG – Persistent ↑ of CRP despite IVIG.
3. Liver dysfunction – hypoalbuminemia.
4. Kobayashi score > 5.

Table 2: Kobayashi risk score

Parameter	Score
Na ≤133 mmol/L	2
≤4 days of illness	2
ALT ≥100 iu/L	1
Platelets ≤300 x 10 ⁹ /L	1
CRP ≥100 mg/L	1
Aged ≤1 yr	1
≥80% neutrophils	2

per L

❑ **Investigations:** None is diagnostic

- FBC – ESR – CRP – LFT – Alb – Urine: sterile pyuria – CSF: Lymphocytosis
- **Cultures:** Urine – blood.
- ASOT – Throat swab.
- Virology screen if rash persist: Enterovirus, parvovirus, EBV, CMV, Measles PCR.
- **ECG:** ST depression, T wave inversion, HB.
- **Echo:** do not delay therapy before Echo.

❑ **When to seek advice from paediatric rheumatology**

- Incomplete Kawasaki.
- Features suggestive of an alternative rheumatological/inflammatory diagnosis.
- Aged <1 yr.
- Failed first dose of IVIG.

❑ Management:

✗ Aspirin:

- 7.5 – 12.5 mg/kg 6H until afebrile or minimum 2 weeks.
- to be decreased to 2 – 5 mg/kg OD for 6 weeks.

✗ IVIG:

- 2 grams/kg, monitored by RR, HR, BP – Take care of allergy – given gradually.
- Can be repeated if fever persist 36 H after 1st dose.

MONITORING IVIG INFUSION

- Monitor temperature, heart rate, BP and respiratory rate.
- every 5 min for first 15 min. then every 15 min. for first hour.
- Anticipate anaphylaxis, flushing, fever, headache, shivering.
- If tolerated, increase infusion rate to give total dose over remaining 10 hr and monitor hourly.
- If mild reaction, stop infusion for 15 min then restart at slower rate.

✗ Methylprednisolone:

- 0.8 mg/kg/12H, after discussion with rheumatology.
- Given in high-risk Pts or if fever persist after 2nd dose of IVIG.
- Followed by Prednisolone 2mg/kg/day, weaned over 2 weeks.

✗ Infliximab:

- After discussion with paediatric rheumatology.
- Given in case of methylprednisolone failure.

❑ Discharge and FU:

- When fever settled.
- **Echo:** at 2 w and 6 w from onset of S/S.

❑ Advise:

- avoid excessive exercise till echo appointment.
- avoid all live attenuated vaccines 3M after IVIG.

❑ Outpatient management:

✗ No aneurysm at 6 W echo:

- Stop aspirin.
- No restriction of activity.
- FU after 1 year.

✗ Single aneurysm <8mm:

- Aspirin 2-5mg/kg till aneurysm disappears.
- Activity level determined by cardiologist.
- FU every 6M with ECG and echo.

✗ Multiple or giant aneurysm or stenosis:

- Lifelong aspirin & warfarin.

❑ PAEDIATRIC INFLAMMATORY MULTISYSTEM SYNDROME (PIMS or MIS-C)

Paediatric Guidelines 2022-24 Book: page 217

Vesicular rash

Chickenpox (varicella)

Caused by varicella-zoster virus (DNA virus)

❑ Description:

- An itchy, spotty, painful rash.
- It can be anywhere on the body (face-mouth- eyelids – genitalia).
- Polymorphic rash: 3 Stages (spots → blisters → scabs)
- New spots can appear while others are becoming blisters or forming scabs.
- No dermatomal Distribution & involves nose.
- Associated symptoms: fever – body aches – feeling unwell - loss of appetite.



❑ History:

- OCD, what increase & what decrease
- Associated with fever? If yes which started first & distribution & sequence of rash.
- Family hx of similar condition.
- F W A SL.
- Eye, mouth, L.N enlargement, joints.
- Vaccination status.
- Hx of drug intake.
- Covid vaccination & exposure.
- Hx of travel.
- Hx of preceded URTI.
- Hx of chronic condition & allergy.

❑ EXAMITAION:

- Examination of rash including glass test, general condition of the child, vitals & hydration status
- Examination of eye if involved & other mucous membranes
- L.N & abdominal examination
- Neurological examination & gait.

❑ When chickenpox can be spread?

- You can spread chickenpox to other people from 2 days before your spots appear until they have all formed scabs – usually 5 days after your spots appeared.
- The spots start appearing around 1 to 3 weeks after you caught chickenpox.
- You cannot catch shingles from someone with chickenpox.
- You can catch chickenpox from someone with shingles if you have not had chickenpox before.
- When you get chickenpox, the virus stays in your body. The virus can be triggered again if your immune system is weak. This causes shingles.
- This can happen because of stress, certain conditions, or treatments like chemotherapy.

❑ DD

- Eczema herpeticum
- Shingles
- impetigo
- SSSS
- Hand foot and mouth disease.

❑ Investigations:

- usually diagnosed clinically.
- if atypical rash → viral skin swab & PCR.

❑ Treatment:

- **Supportive treatment:** the same as other rashes.

❑ Advice: Call or visit the GP if:

- the skin around the chickenpox blisters is hot, painful and red, but redness may be harder to see on brown or black skin
- your child has chickenpox and is dehydrated
- chickenpox symptoms suddenly get worse
- you're pregnant and have not had chickenpox before, or you're not sure, and you've been near someone with chickenpox
- you have a weakened immune system and have been near someone with chickenpox
- you think your Newborn baby has chickenpox.

❑ The chickenpox vaccine:

- You can get the chickenpox vaccine if you have a risk of harming someone with a weakened immune system if you spread the virus to them.
- For example, a child can be vaccinated if 1 of their parents is having chemotherapy.

❑ Complications

- 2ry bacterial infection shingles.
- Toxic shock syndrome.
- Pneumonia.
- Encephalitis.
- Cerebellitis.
- Necrotizing fasciitis.
- Purpura, fulminant vasculitis.

Shingles (herpes zoster)

✖ Shingles is an infection that causes a painful rash.

❑ The first signs of shingles can be:

- ✖ a tingling or painful feeling in an area of skin.
- ✖ a headache or feeling generally unwell.

❑ The Rash:

- ✖ A rash will appear a few days later.
- ✖ Usually, you get the shingles rash on your chest and tummy, but it can appear anywhere on your body including on your face, eyes and genitals.
- ✖ The rash appears as blotches on your skin, on 1 side of your body only. A rash on both the left and right of your body is unlikely to be shingles. (Dermatomal distribution).
- ✖ The blotches become itchy blisters that ooze fluid. A few days later, the blisters dry out and scab.
- ✖ The rash can be red
- ✖ The rash can form a cluster that only appears on 1 side of your body. The skin remains painful until after the rash has gone.
- ✖ The rash may be in and around your eye, making it sore and red. It can affect your sight or hearing and make it hard to move 1 side of your face.



❑ How long shingles lasts:

- It can take up to 4 weeks for the rash to heal.
- Your skin can be painful for weeks after the rash has gone, but it usually gets better over time.

❑ Work and school:

- Stay off work or school if the rash is still oozing fluid (weeping) and cannot be covered, or until the rash has dried out.
- You can only spread the infection to other people while the rash oozes fluid.
- You can cover the rash with loose clothing or a non-sticky dressing

❑ Try to avoid:

- pregnant people who have not had chickenpox before.
- people with a weakened immune system – like someone having chemotherapy.
- babies less than 1 month old – unless you gave birth to them, as your baby should be protected from the virus by your immune system.

❑ Ask about:

- vaccination history
- chronic disease
- previous infection with chicken pox.

❑ Treatment:

▪ Conservative:

- take paracetamol to ease pain.
- keep the rash clean and dry to reduce the risk of infection.
- wear loose-fitting clothing.
- use a cool compress (a bag of frozen vegetables wrapped in a towel or a wet cloth) a few times a day.
- do not let dressings or plasters stick to the rash.
- do not use antibiotic cream – this slows healing.

▪ Medical:

- in the first 72 h of rash, we give acyclovir for 7-10 days in immunocompetent & 21 days in immunocompromised patients.
- Steroid eye drops after consultation from ophthalmology.

❑ Prevention:

- vaccination VZIG.

Herpes simplex

- Cold Sores usually start with a tingling, itching or burning feeling.
- Then Small fluid-filled blisters appear. The blisters can appear anywhere on the face.
- The blisters burst and crust over into a scab.
- They should start to heal within 10 days, but are contagious and may be irritating or painful while they heal.
- Some people find that certain things trigger a cold sore, such as another illness, sunshine.



❑ How long cold sores are contagious:

- Cold sores are contagious from the moment you first feel tingling till they are completely healed.
- Kissing a baby if you have a cold sore can lead to neonatal herpes, which is very dangerous to Newborn babies.

❑ Treatment:

A pharmacist can recommend:

- creams to ease pain and irritation.
- antiviral creams to speed up healing time.
- cold sore patches to protect the skin while it heals.
- You can buy electronic devices from pharmacies that treat cold sores with light or lasers.
- If recurrent: use antiviral creams as soon as you recognize the early tingling feeling. They do not always work after blisters appear.

❑ Advice:

- drink plenty of fluids to avoid dehydration.
- eat cool, soft foods.
- do not eat acidic or salty food if it makes your cold sore feel worse.
- wash your hands with soap and water before and after applying cream.
- do not rub cream into the cold sore – dab it on instead.
- do not touch your cold sore (apart from applying cream) – if you do, wash your hands.
- avoid anything that triggers your cold sores.
- use sunblock lip balm (SPF 15 or above) if you're outside in the sun
- take paracetamol or ibuprofen to ease pain and swelling do not give aspirin to children under 16.
- do not kiss anyone while you have a cold sore.

❑ See your GP if:

- the cold sore has not started to heal within 10 days.
- you're worried about a cold sore or think it's something else.
- the cold sore is very large or painful.
- you or your child also have swollen, painful gums and sores in the mouth (gingivostomatitis).
- you have a weakened immune system – for example, because of chemotherapy or diabetes.

Non-blanching rash (petechial rash)

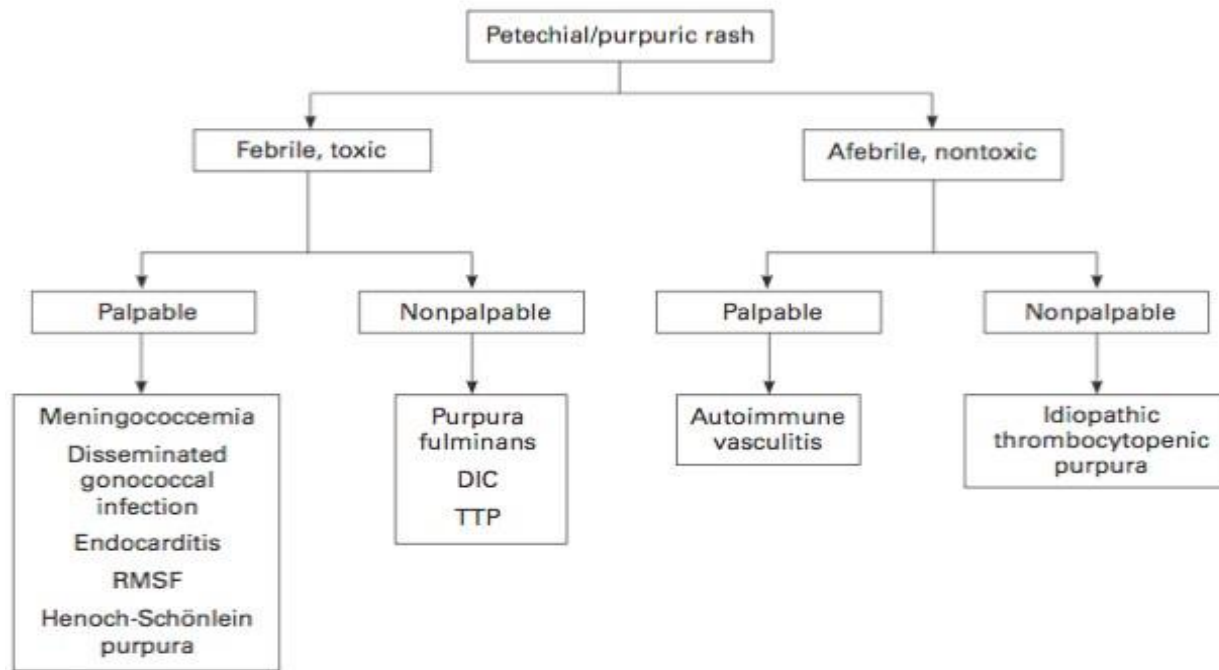


❑ CAUSES:

- Meningococcal sepsis.
- Henoch-Schönlein purpura (HSP).
- Immune thrombocytopenic purpura (ITP).
- Thrombocytopenic purpura (TTP).
- Hemolytic uremic syndrome (HUS).
- Malignancy & Aplastic anaemia.
- DIC.
- Sepsis.
- Non-accidental injury.
- Forceful coughing and/or vomiting.

Nonthrombocytopenic (Normal platelet count)	Thrombocytopenic (Less than 150,000)	
• HSP • Child abuse • Platelet function defect	Ill appearing Small platelets: low MPV • Malignancy • Aplastic anaemia Large platelets: high MPV • Infection • TTP • HUS • Hypersplenism	Well appearing Small platelets • Congenital: TAR, Karabakh • Medications: phenytoin, heparin Large platelets: • TTP • SLE

Petechial/Purpuric rash



❑ HISTORY:

- OCD, associated with fever or not, if fever which occurs first? or occurring together
- **Blanchable or not** (if not clear in the video), **rash distribution & progression**, is it **itchy**.
- **Haematology**: bruises, epistaxis or bleeding from other sites (ITP)
- **GIT**: abdominal pain, bloody diarrhoea (HSP)
- **CVS**: tachycardia, cold extremities, fainting (signs of shock & sepsis)
- **CNS**: conscious level & if its deteriorated, seizures, signs of meningeal irritation (meningococcaemia), abnormal gait (HSP).
- **Respiratory**: tachypnoea, previous history of URTI (ITP).
- **Urinary**: colour of urine & frothy urine (HSP), blood pressure (HUS).
- **MSK**: any joint swelling, joint pain (HSP).
- **History of contact to covid patient & immunization status**.
- **FWA SL**
- **History of trauma**
- **History of drug intake**.

❑ EXAMINATION:

- After taking complete aseptic measures, wearing protective equipment & gloves.
- Admission, isolation & notification of infection control team.
- ABCD, full exposure & pain killer.
- Assess vital signs & temperature instability
- Assess conscious level & urine output, capillary refill time, oedema & GCS ➤ Examination of the rash, glass test.
- Full neurological, cardiovascular, abdominal, chest, MSK & genitalia (HSP), LN examination (malignancy & infection).
- Fundus examination & ophthalmology referral.

❑ **Run some tests:**

- **If unwell child:** CBC, CRP, meningococcal PCR, PT, INR, BL. glucose& lactate, urea and electrolytes, LFT, RFT, cultures (blood, urine, throat swab & culture), viral serology.
- **If well child:** CBC, PT, platelet count, LFT, RFT, blood film.

❑ **Treatment:**

- ABC, if the patient in shock (CRT>2min) resuscitation with 20ml/kg normal saline.
- Inform your consultant & admission if needed.
- Start IV antibiotics within 1 h according to the local guidelines (iv ceftriaxone).
- Talk to the nurse to monitor the vital signs carefully.
- Talk to the parents.
- If needed call the anaesthesia & inform PICU.
- TTT according to guidelines.

✕ **SVC distribution**

- After straining like cough or vomiting, rash appears along the distribution of face & upper body.
- The child will be well with stable vital signs.
- No need for investigations. Just reassurance& discharge with an open access card.

Meningococcal disease S/S

☐ Symptoms:

- × **Common non-specific:** fever, vomiting, lethargy, irritability, headache, muscle pain.
- × **Less common nonspecific:** Chills, abdominal pain, diarrhoea, sore throat.
- × **More specific:**
 - **Sepsis:** Non-blanching rash – Altered LOC – CRT > 2sec – Hypotension – Shock – Cold hands and feet – Leg pain.
 - **Meningitis:** neck stiffness, back rigidity, bulging fontanel, photophobia, focal neurological deficits, seizures, unconsciousness.

☐ Diagnosis:

× **High risk of meningococcal disease:**

if any of the following occur at any point, take blood CS and start IV ceftriaxone immediately:

1. Looks ill, Petechiae start to spread or Rash become purpuric
2. Signs of bacterial meningitis or Signs of meningococcal septicaemia

× **Low risk of meningococcal disease:**

Meningococcal disease is unlikely in children with:

1. Non-spreading petechial rash without fever or H/O fever.
2. Looks well.
3. Management: consider other possible diagnoses –perform FBC and coagulation.

☐ **Unexplained petechial rash with fever or history of fever:**

× **Investigations:** FBC – CRP – Coagulation – PCR for Meningitides' –BG – Blood gases

× **Management:**

- If CRP raised + - leucocytosis or leukopenia → start IV ceftriaxone immediately.
- Normal CRP and WBCs count:
 - Don't exclude meningococcal disease.
 - Monitor vital signs hourly over next 4 – 6 hours.
 - If doubt remains: admit and start antibiotics.

ITP

Description:

- describe the rash according to the video, purpura & ecchymosis all over the body with palatal purpura.



HISTORY

- OCD, associated with fever or not, if fever which occurs first? or occurring together
- Blanchable or not (if not clear in the video), rash distribution & progression, is it itchy.
- **Haematology:** bruises, epistaxis or bleeding from other sites (ITP)
- **History of preceding URTI.**
- **Respiratory:** tachypnoea, previous history of URTI (ITP).
- **GIT:** abdominal pain, bloody diarrhoea (HSP)
- **CVS:** tachycardia, cold extremities, fainting (signs of shock & sepsis), abnormal gait (HSP).
- **CNS:** conscious level & if its deteriorated, seizures, signs of meningeal irritation (meningococcaemia).
- **Urinary:** colour of urine & if frothy urine (HSP) & blood pressure (HUS).
- **MSK:** any joint swelling, joint pain (HSP).
- **History of contact to covid patient & immunization status.**
- **FWA SL**
- History of trauma.
- History of drug intake.

Immune thrombocytopenia (ITP) is a type of thrombocytopenia involving the formation of autoantibodies against platelets. ITP may be a primary disease or occur secondary to a known trigger (e.g., SLE, HIV, hepatitis C, medications). It is commonly seen in children as a self-limiting illness following a viral infection, and in adults as a chronic illness. Most patients are asymptomatic, however, patients may occasionally present with minor mucocutaneous bleeding (e.g., petechiae, purpura, epistaxis) or, rarely, with severe bleeding (e.g., gastrointestinal or intracranial hemorrhage). Treatment recommendations vary depending on the presence and severity of symptoms. First-line medical therapy consists of corticosteroids, IVIG, or anti-D immunoglobulin, and is indicated for patients with non-life-threatening symptoms affecting their quality-of-life, and for adults with little-to-no symptoms and platelet counts below 30,000/mm³. Children with little-to-no symptoms can typically be managed with observation alone regardless of platelet count. Second-line treatments (i.e., thrombopoietin receptor agonists, rituximab, splenectomy) may be required for refractory, persistent or chronic cases. Patients with life-threatening hemorrhage, neurological symptoms, or those requiring urgent surgical interventions should receive immediate combination medical therapy (i.e., corticosteroids plus IVIG) along with platelet transfusions and hemostatic control interventions when necessary.

Examination:

- After taking complete aseptic measures, wearing protective equipment & gloves.
- Admission & isolation & notification of infection control team
- ABCD & full exposure & pain killer
- Assess vital signs & temperature instability
- Assess conscious level & urine output, capillary refill time, oedema & GCS.
- Examination of the rash, glass test.
- Full neurological, cardiovascular, abdominal, chest, MSK & genitalia (HSP), LN examination (malignancy & infection).
- **Fundus examination & ophthalmology referral.**
- Examination of joints (MSK EXAMINATION).

Discussion & guidelines:

- ★ PLT < 100,00.
- ★ acute 0-3M – Persistent 3-12M – Chronic > 12M.
- ★ Self-limiting with good prognosis – 75% - 80% resolve in 6Ms – 20% relapse
- ★ Usually preceded by infection, followed by purpura, petechial rash or bruising
- ★ Unusual serious mucosal bleeding.
- ★ No lymphadenopathy – No HSM.

❑ Investigations:

- ★ **Initial:** FBC – Blood film – Coagulation profile.
- ★ May need **virology screen**, CMV, EBV IgM, HIV, HCV, HBV.
- ★ **BMA indicated only if:** Bi or pancytopenia – HSM or lymphadenopathy – Limping – Decide to give steroids.
- ★ **CT brain urgently:** if headache ± neurological signs.
- ★ **In case of chronic ITP:** investigate for autoimmune diseases.

❑ Management:

1. Discuss Newly diagnosed ITP with the paediatric haematologist.
2. Discuss **platelet transfusion** with the paediatric haematologist in case of **essential operations or before dental extraction**.
3. Explain the diagnosis and reassure parents.
4. Avoid NSAIDs
5. Avoid contact sports.

❑ Treatment of bleeding:

Not related to the number of platelets, but to the degree of bleeding:

★ **Mild bleeding:**

- Tranexamic acid.

★ **Moderate bleeding:** (as in prolonged mucosal bleeding):

- Give **prednisolone 2 mg/kg/day for 14 days then taper over 21 days**.
- or • **prednisolone 4 mg/kg/day for 4 days**.
- or • **immunoglobulin 0.8 g/kg IV single dose**.

★ **Significant bleeding:** (uncontrollable epistaxis – GI haemorrhage – ICH):

- **Platelets transfusion** plus **methylprednisolone 30mg/kg/day for 3 days** or **IVIg 0.8 – 1 gram/kg**, can be repeated once within 3 days.

❑ Follow Up:

- ★ FBC and film monthly till diagnosis clear or recovery.
- ★ Repeat sooner if bruising or bleeding.
- ★ Discharge from FU if $PLT > 100,000$ and asymptomatic.

❑ In case of chronic ITP:

- ★ Treat only if: **$PLT < 10,000$ with repeated mucosal bleeding – menorrhagia – acute neurological signs**
- ★ Before treatment: BMA is indicated
- ★ Treated by: **prednisolone 2mg/kg/day for 14 days, then taper over 21 days** or **dexamethasone 0.6mg/kg oral for 4 days**
- ★ If not responsive to corticosteroids: **Rituximab** or **thrombopoietin** after discussion with haematologist.
- ★ **Splenectomy is reserved for those with persistent/significant bleeding who are non-responsive or intolerant to other therapies.**

HSP

History & examination:

- same as the general for non-blanchable rash, CNS & urinary system on the top.

Discussion & guidelines:

Vasculitis of unknown aetiology, typical age 2 – 8 yrs.



S/S:

- **Rash:** raised purpuric with surrounding erythema over extensor surfaces of legs, buttocks and arms.
- **GIT:** Abdominal pain, nonspecific typically resolved in 72H, if severe to exclude intussusception, testicular torsion or pancreatitis - Nausea and vomiting - Intestinal haemorrhage: hematemesis, melena or bloody stool.
- **Renal:** microscopic hematuria o Proteinuria, can be present 4 – 6 W after initial presentation o HTN o Nephritic or nephrotic o Edema of hands, feet, sacrum or scrotum.
- **CNS:** headache – seizures – paresis – coma.

DD: Other causes of purpuric rash like meningococcaemia – ITP

Investigations:

Initial investigations:

- BP.
- **Urine dipstick** for hematuria and proteinuria.
- If proteinuria: Early morning **Protein/creatinine ratio**.
- If Haematuria: **Urine microscopy**.

Additional investigations: if abnormal urine analysis or diagnosis is uncertain.

- FBC – Blood film – U&E – Albumin.
- Coagulation profile.
- Throat swab or Blood C&S and ASOT if fever.

Indications for admission:

- Orchitis – Arthritis > 2 joints.
- Inability to ambulate.
- Moderate/severe abdominal pain.
- Clear evidence of GI bleeding.
- Proteinuria.

Treatment:

- ★ **Arthritis:** ibuprofen, but used with caution in case of renal involvement.
- ★ **Abdominal pain:** prednisolone 1mg/kg/day for two weeks, if severe exclude GI complications.

IgA vasculitis (IgAV), previously referred to as Henoch-Schönlein purpura (HSP), is an acute immune complex-mediated small vessel vasculitis that most commonly occurs in children. Onset is often preceded by an upper respiratory tract or gastrointestinal infection. IgAV in adults may be idiopathic. Affected individuals typically develop palpable purpura, arthritis and/or arthralgia, and abdominal pain. Renal involvement (i.e., IgAV nephritis) is more common and usually more severe in adults than in children, typically manifesting with hematuria. While IgAV is a clinical diagnosis, laboratory studies are used to identify organ involvement and exclude differential diagnoses, and skin biopsy can confirm the diagnosis in patients with atypical presentations. IgAV is usually self-limited; treatment is generally supportive. Systemic glucocorticoids may be required depending on severity of manifestations (e.g., in IgAV nephritis, orchitis). IgAV has an excellent prognosis in children, usually resolving within one month when not complicated by IgAV nephritis. Adults often manifest with more severe features and have lower remission rates. All patients require follow-up assessments to rule out the development of chronic renal disease.

Clinical Findings

An upper respiratory tract infection often precedes symptom onset by 1–3 weeks.^[3]

- **Constitutional symptoms:** low-grade fever, malaise, fatigue

- **Skin** (~ 100% of cases)^[4]

- Symmetrically distributed erythematous papules or urticarial lesions that coalesce into palpable purpura
- Bullae, pustules, and necrotic or hemorrhagic purpura (more common in adults)^[5]
- Most commonly in the lower extremities, buttocks, and other areas of pressure or constraint (e.g., from clothing)

- **Joints** (~ 75% of cases)^[7]

- Arthritis/arthralgia
- Most commonly in the ankles and knees

- **Gastrointestinal tract** (~ 60% of cases)^[7]

- Colicky abdominal pain
- Intussusception
- Hematochezia or melena
- Nausea and/or vomiting

- **Kidneys:** IgAV nephritis (20–50% of children; 50–80% of adults)^[8]

- Nephritic syndrome
- See also "IgA nephropathy."

- **Other organs** (rare)

- Genitourinary tract (e.g., epididymo-orchitis, urethritis)
- Central and peripheral nervous system (e.g., headaches, seizures, intracerebral hemorrhage)
- Respiratory tract (e.g., mild interstitial changes, alveolar hemorrhage)
- Eyes (e.g., episcleritis, uveitis)

1 IgAV is characterized by PAPA: purpura, abdominal pain, arthritis/arthralgia, and hematuria.

1 IgAV is an important differential diagnosis to consider in children with a limp.

1 IgAV is much less common but typically more severe (e.g., involving hemorrhagic or necrotic skin lesions, IgAV nephritis) in adults than in children.^[9]

☐ **Monitoring and FU:**

1. **Uncomplicated HSP** (e.g., UA = or < +1 blood or ptn + normal BP): FU with GP the BP monthly for 6M and urine dipstick weekly till the urine becomes clear.
2. **Complicated HSP**: FU in children clinic.

☐ **Parents education:**

- ★ Condition will fluctuate for several months; recurrence is rare.
- ★ Close urine monitoring, as rarely AKI may occur.
- ★ Seek medical advice if: headache, severe abdominal pain or GI bleeding.

☐ **Refer to nephrologist if:**

1. Abnormal urinary finding > 6 months.
2. Macroscopic hematuria (nephritic).
3. Heavy proteinuria at presentation.
4. Hypertension.
5. Impaired RFT.

(Significant Proteinuria= early morning urine protein/creatinine ratio > 100 g/mmol or 3+ proteinuria for 3 days)

☐ **Refer to rheumatology if:**

- atypically or rapidly evolving rash.

☐ **Q/ Will it cause RF?**

- rarely to cause it, about 1-3 % only.

Meningococcaemia

❑ Description:

- rash, sitting, general condition, well or not, alert, conscious or not.

❑ DD:

- other causes of non-blanching rash

❑ Examination:

- same as non-blanching rash (start with ABC, GSC, neurological examination & tests for meningeal irritation).

❑ Other investigations:

- **Throat swab and C/S:** if meningococcal sepsis signs.
- **Stool** for enterovirus.
- **PCR:** if CSF lymphocytes ++.
- **Urine and plasma osmolality:** daily if severe illness
- **Discuss with microbiologist:** if Abs given before LP + raised WBCs in CSF + No growth in CSF or blood.

❑ Persistent pyrexia and not improving, searching for other foci:

- Repeat blood CS.
- CT scan at 10 days looking for micro abscesses or hypo density.
- Repeat LP if CT normal.

❑ Management:

1. Dexamethasone 0.15 mg/kg (maximum 10mg) 6-hrly for 4 days

Steroids if:

- ★ Aged >3 months.
- ★ ≤12 hr from first antibiotics.
- ★ TB not suspected unless on TB treatment AND LP shows:
 - frankly purulent CSF
 - CSF WBC >1000/micro-L
 - raised CSF WBC + protein >1 g/L
 - bacteria on Gram stain

2. Cefotaxime or ceftriaxone in high dose.

- ★ If aged <3 months: add amoxicillin IV high dose.
- ★ If recently overseas or prolonged or multiple antibiotic exposure over the last 3 months: add vancomycin.
- ★ If focal neurology/seizure or reduced GCS, add acyclovir CNS dose
- ★ If definite history of anaphylaxis to penicillin, give chloramphenicol

✗ Consider bacterial meningitis if:

- WBCs in CSF = or > 20 in neonates and > 5 in others
- If lower WBCs in CSF + clinically meningitis

✗ Discuss with TB team if:

- H/O travel – Low CSF BG – High Protein

× **General:**

1. **As a notifiable disease:** Inform the public health consultant (health protection team =HPT).
2. **Monitor:** Hourly for RR – HR – BP – LOC Daily HC if younger infants.
3. **Fluid restriction to 80% if:** ++ ICP – Hyponatremia – Severe illness.
4. **Prophylaxis for close contacts:** Ciprofloxacin single dose for all ages – Rifampicin OD/4 days if HIB in less than 10 years.

× **Length of antibiotics:**

7 days: Meningococcus.

10 days: HIB or age > 3 M and organism not identified.

14 days: Pneumococcus – GBS or age < 3 M and organism not identified.

21 days: Gram negatives – Listeria (with Gentamicin in 1st 7 days).

Discus with paediatric Infectious Diseases consultant: if others.

☐ **Follow up:**

- × **Formal hearing test:** after 6 weeks from hospital admission.
- × **Developmental FU:** if severely ill during admission
- × **Refer to Immunology or Infectious Diseases Specialist** if any of the following:
 - **Recurrent serious bacterial meningitis.**
 - **FH of PID or meningococcal disease.**

☐ **Booster doses of meningococcal vaccination:** Indicated if

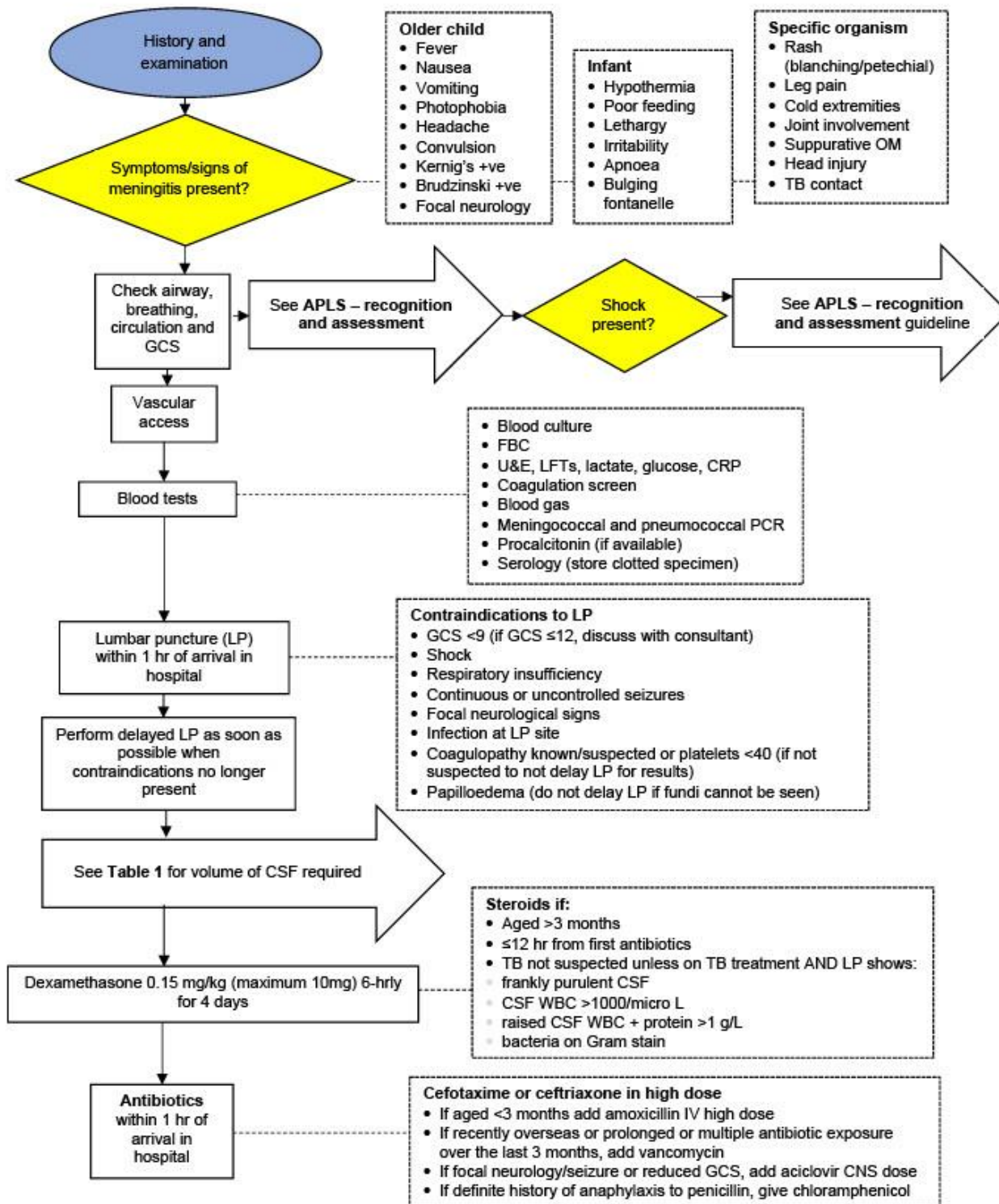
1. > 1 episode of meningococcal disease despite previous immunization.
2. MenB aged 8 and 16 Y – MenB and C, aged 1 Y – MenACWY, aged 14 Y.

Meningitis Algorithm

MENINGITIS • 1/3

ASSESSMENT

- See <https://bsac.org.uk/paediatricpathways/>



NAI:☐ **Description:**

- Describe the rash as any non-blanching rash.
- Comment on any other obvious signs of non-accidental injury. (Bruises, wasting, symmetry)

☐ **DD:**

- Other causes of Non blanchable rash.

☐ **History:**

- OCD, associated with fever or not, if fever which occurs first? or occurring together.
- Blanchable or not (if not clear in the video), rash distribution & progression, is it itchy.
- Any bruise in other parts of the body?
- Any joint contractures, pain or deformity.
- Previous admission.
- Who take care of him.
- Is the family registered to social worker?
- Any family member taking alcohol or drugs?
- **Other system Q for the other DD.**

☐ **Examinations:**☐ **General examination:**

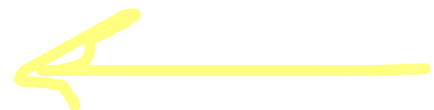
- ABCD & full exposure & pain killer if in pain.
- Assess vital signs & temperature instability & hydration status.
- Assess conscious level & urine output, capillary refill time, oedema & GCS.
- General condition of the child, looks well or not, dirty, his clothes good or torn.
- **Examination of the rash**, glass test.
- **Nails**: long, dirty with koilonychia.
- **Arms**: pulse, muscle wasting, deformities, burn marks, broadening of wrist joint.
- **Head**: shape, HC, craniotables, ant. Fontenelle (bulging for ICT, depressed for dehydration)
- **Eye**: pallor, bluish discoloration of sclera, subconjunctival he, sunken eye, if tear or not, racoon eye.
- **Nose**: any discharge from nose (CSF).
- **Mouth**: pallor, broken teeth, torn frenulum, dry or moist.
- **Ear**: any discharge or blood from ears, battle sign on the back of ear.
- **Chest**: CRT on sternum, rosaries, deformities, fractures or bruise.
- **Abdomen**: dirty umbilicus, dehydration, bruise & palpate for ptosed liver.
- **Genital & nappy area**: nappy rash, ammoniacal dermatitis, patulous anus, urine output.
- **L.L**: bowing, deformities, callus formation & Marfan sign.
- **Back**: bruise & deformity.

☐ **Investigations:**

- FBC, coagulation profile, LFT, bone profile, 24h hydroxyproline in urine, bl. Grouping & factor VIII & factor IX.
- X ray wrist, CT brain if less than 1 y or head injuries, skeletal survey if less than 2 y repeat after 14 d, Dexa scan for bone density which may be diagnostic if has IO or XLD hypophosphatemic rickets.
- **Fundoscopy for retinal haemorrhage.**

Management:

- Admission and involve my consultant & the consultant of child protection.
- ABC, correct dehydration if present, painkiller if present, take his vitals, take his measures and plot on centiles appropriate for age & sex.
- Take full history.
- Document any bruise by photos & comment on colour and age of rash and bruises, also document interaction between the child and caregiver.
- Fill specific child abuse form & document (general state of the child & details of all body area examination).
- Revise his file for previous documentation.
- Check safety of the child at home.



Eczema

● 3 years old child has been treated for long time for a red itchy skin lesion mostly on face and the front of the elbow and the back of the knees, in the last few days he was complaining of worsening of the skin lesions as shown.

- **Eczema herpeticum:** (skin between the lesions is intact).

❑ **Description:** Polymorphic lesions, group of small blisters may ooze, bleed and then crusted.

❑ **HX:**

- OCD.
- What make it worse & what make it better.
- Is there any fever, affection of sleep and mood, itchy or not, painful or not.
- Where it started, any associated LN swelling.
- General condition.
- Atopic March.

❑ **Examination:**

- General condition.
- Vital signs esp. BL.pr & signs of shock.
- Examination of rash.
- Signs of steroid toxicity.

❑ **DD:**

- chicken pox (being in groups against it).
- Impetigo (being unwell against it).
- Simple flare up of eczema (it will be itchy not painful)
- Viral exanthemata.
- Seborrheic dermatitis.

❑ **Complications:**

- Eye infection
- 2^{ry} bacterial infection.
- Organ damage in immunocompromised patients.
- Complications of treatment.

❑ **Cause of eczema herpeticum:** Human Herpes Virus 1 (HHV 1).

❑ **Treatment:**

1. ABC
2. Emollients. (Judicious Use)
3. Antiseptic lotion (chlorohexidine).
4. Urgent ophthalmologist refers to be seen within one hour (if eye involved).
5. IV acyclovir: oral or IV according to the condition of the child or if less than 6m.
6. May needs antibiotics: if there is 2^{ry} bacterial infection, either local with mupirocin, due to staph mostly and needs floxacillin & if allergic to penicillin so, macrolides after discussion with consultant.
7. Topical steroids & may be steroid bandage after dermatology consultation.
8. Advice.

❑ **Red flags:**

- Fever, decreased activity, poor feeding and change of the character of rash.

❑ **MDT:**

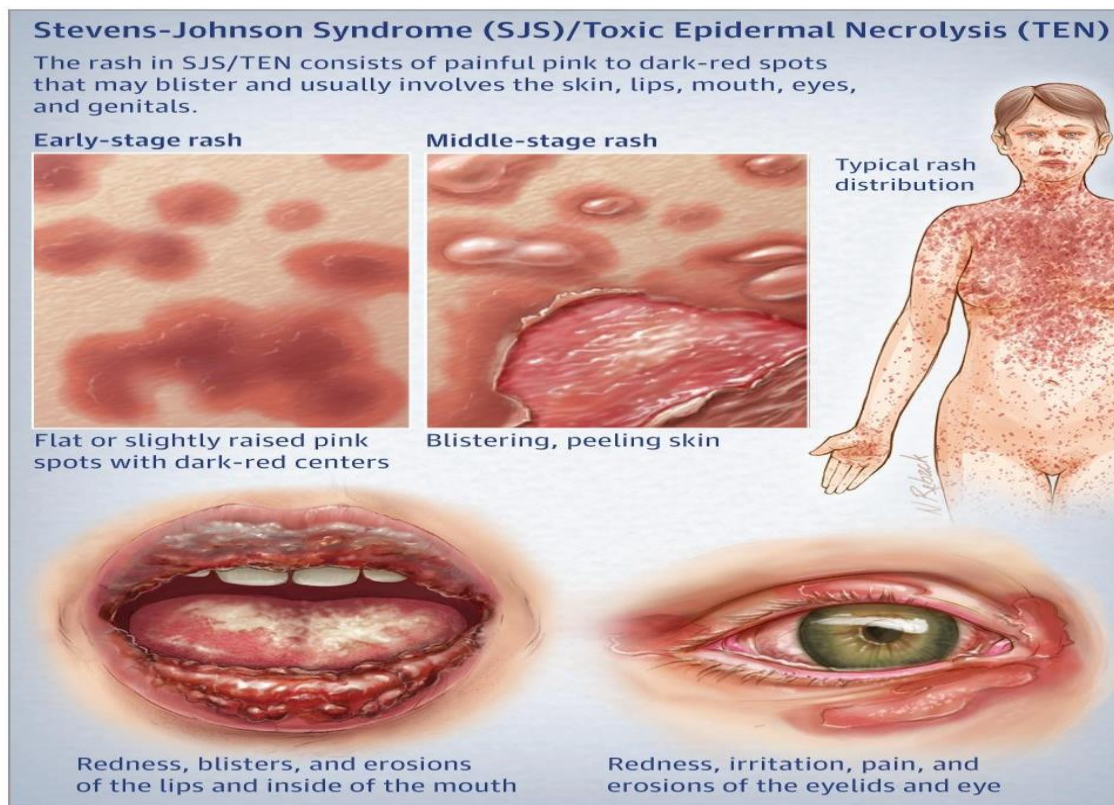
- Consultant paediatrician, dermatology consultant, dietitian, allergy doctor, allergy nurse, ophthalmology, liaison with school, psychological support and support group.



Eczema herpeticum [10]

- **Etiology**
 - HSV-1 or HSV-2
 - Associated with preexisting skin conditions, commonly atopic dermatitis
- **Clinical features**
 - Grouped painful umbilicated vesicles on an erythematous base that progress to punched-out erosions
 - Most commonly located on the head and upper body
 - Associated symptoms: fever, malaise, lymphadenopathy
- **Differential diagnoses**
 - Chickenpox
 - Impetigo
 - Contact dermatitis
 - Smallpox
- **Diagnostics:** initially clinical diagnosis, then confirmed with laboratory testing (see "Diagnostics of HSV infections.")
- **Treatment**
 - First line: IV acyclovir (off-label) **DOSAGE** [10]
 - Consult dermatology urgently for assistance with management.

Stevens-Johnson syndrome (SJS)



❑ Cause? (E. Multiforme)

- **Drugs:** Phenytoin - Phenobarbital - Lamotrigine - Carbamazepine - **Allopurinol** - Penicillin.
- **Viral:** Mumps - Flu - HSV - Coxsackie - EBV.
- **Bacterial:** Mycoplasma.

❑ Risk factors?

- **Viral infections :** Herpes - Hepatitis - Pneumonia - HIV.
- **Immunosuppression:** HIV - SLE - Chemotherapy.
- **Previous/Family Hx of SJS.**

❑ Features?

- Affection of: Skin - MM - Genitals - Eyes.
- Flu-like symptoms (Fever - Headache - Arthralgia - Cough) -> Rash (E. Multiforme) -> Blisters -> Facial swelling.
- *MM = Eyes - Mouth - Oesophagus - Upper respiratory tract - GIT - Genitalia.

Stevens-Johnson syndrome (SJS) is a rare immune-mediated skin reaction that results in blistering of skin and extensive epidermal detachment. SJS is generally triggered by medications (e.g., certain antibiotics and antiepileptics). The patient presents 1–3 weeks after exposure to a medication with fever and other flu-like symptoms. Painful, vesiculobullous skin lesions develop and eventually denude to form extensive skin erosions, resembling large, superficial burns. The mucous membranes are also characteristically affected and the patient presents with oral ulcers, genital ulcers, and/or severe conjunctivitis. When > 30% of the skin is affected, the condition is referred to as toxic epidermal necrolysis (TEN). The diagnosis is primarily clinical, but skin biopsies can be used to support the diagnosis and rule out other causes of vesiculobullous lesions. The most important therapeutic measure is to discontinue the offending drug. Supportive care is similar to that of extensive burns, including fluid resuscitation, wound care, and pain management. SJS and TEN are associated with a high mortality as a result of hypovolemic and/or septic shock.

❑ DD

- SSSS
- TEN
- Bullous impetigo
- Burn



	SSSS (Staphylococcal scalded skin syndrome)	TEN (Toxic epidermal necrosis)	SJS (Stevens-Johnson Syndrome)
Description	- Scalded skin with desquamation. - Less than 2 m.m, may be 1 or no. - macular erythema with scales, painful, common in flexural areas. - fever with facial erythema. - mortality 4%.	- Describe rash & its distribution. >or = 2 m.m 30% of the body affected. - high mortality 50%.	- Describe rash & its distribution. - Usually come with history of 2-4 w ttt for nappy dermatitis. >or = 2 m.m. - With blisters. - Involve > 10% of the body. - Mortality 10%.
Cause	Exfoliative (Epidermolytic) toxins of staphylococcus aureus.	- Sulphonamide - Macrolides - Penicillin - Phenytoin - Phenobarbitone - Carbamazepine - Lamotrigine	- Drugs: as TEN - Infection: HSV, mumps, HIV. - Malignancy - Immunodeficiency.
Diagnosis	+ve Nikolsky's sign with red skin under it. - skin punch biopsy. - swab & culture (sterile culture). - Nasal swab. - Inflammatory markers.	+ve Nikolsky's sign. - full septic screen. - skin biopsy. - skin swab & culture.	+ve Nikolsky's sign - Viral serology - Septic workup - Tumor markers
Treatment	- ABC - Support lungs. - Iv floxacillin. - Dermatology referral. - Topical AB if needed. - Wound Care. - Physiotherapy for flexural Contractures.	- Admission to ICU. - ABC. - support vital functions. - Care for m.m. (eye, nose, vagina). - IVIG. - Clindamycin.	- Admission. - Supportive ttt - IV fluids - Care for m.m. - May needs IVIG. - Plasmapheresis.
Complications		- Mortality 10% - 70%. - Scarring - Hypohidrosis. - Skin pigmentation.	- Mortality 10% - Sepsis - DIC - Dehydration - Scarring

(m.m.=mucous membrane)

Infantile Hemangioma = Strawberry Naevus.



❑ **Features?**

- **Appears (<1 month) -> Fast growth (2-4 ms) -> Stop growth (8 ms) -> Shrink (1 yr.).**
- **Incidence:** More in Caucasian - Girls > Boys - Premature > Term.
- **Sites:** Face - Scalp - Back - Anterior chest.

❑ **DD?**

- **Sturge-Weber.**
- PHACES (Post. fossa malformation - Hemangioma - Arterial - Cardiac - Eye - Sternal).
- Klippel-Trenaunay-Weber syndrome (Hemangioma - Varicose veins).
- Kasabach-Merritt (Enlarging hemangiomas - Thrombocytopenia - Coagulopathy - Microangiopathic hemolytic anemia).

❑ **Investigations:**

- **Diagnosis:** Hx + Examination.
- **Imaging:** Doppler US/MRI.
- **Others:** Skin biopsy.
- **Search for other hemangiomas.**

❑ **Complications:**

- **Skin:** Ulceration - Infection - Bleeding.
- **Vascular:** Platelet consumption.
- **Visceral involvement (Liver - Stomach - Intestine) :** Could be fatal!
- **Low facial (Beard) Hemangioma:** Urgent ENT assessment (to R/O laryngeal hemangioma).

❑ **Management:**

- **MDT:** Dermatology, Hematology, Cardiology, Plastic Surgery.
- **Medical:**
 - **Topical BB:** timolol gel.
 - **Systemic B-blockers:** oral propranolol.
 - **Steroids** (if B-blockers contraindicated).
 - **Interferon alpha** (Life-threatening lesions).
- **Surgical:**
 - **Excision laser therapy.**

Indications of TTT:

1. Age of child.

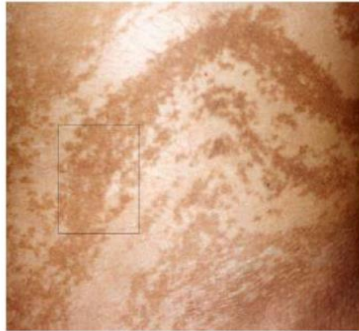
2. Hemangioma :

- Large.
- Ulceration.
- Affects areas where resolution may be incomplete (Nose, lips, ears, eyes).
- Interfering with important functions (Feeding, breathing, hearing, vision).

Incontinentia Pigmenti x-linked dominant

❑ Organs affected? (SEND)

- Skeletal.
- Eye.
- **Neuro.**
- Dentition.



Hypomelanosis of Ito (HI)	Incontinentia Pigmenti (IP)
Sporadic, equal sex incidence	XL dominant (predominantly in females (male lethal))
Neuro: Seizures, developmental delay, ataxia and visual.	Neuro: Seizures, developmental delay, ataxia and visual.
Cutaneous: • Hypopigmented whorls, and patches. • Present at birth or infancy. • Not preceded by vesicular or verrucous stage.	Cutaneous: 1. <u>Vesicular stage</u>: in neonate resolve in months. 2. <u>Verrucous stage</u>: in early infancy, resolve in months. 3. <u>Hyperpigmented stage</u>: whorls, during infancy, resolve slowly by adolescence. 4. <u>Hypopigmented stage</u>: reticular patches, on the LL develop during adolescence persist into adulthood
Ectodermal dysplasia: • Alopecia, coarse hair. • Nail dystrophy • Conical teeth, dental hypoplasia.	Ectodermal dysplasia: - Alopecia, coarse hair. - Nail dystrophy - Conical teeth, dental hypoplasia.