Disclaimer: As we all know, we are all still students and henceforth bound to make mistakes, however, we will try our very best to convey all knowledge based on the Malaysian protocols. By that, we do not hold any responsibilities should our presentations bear mishaps in the future.
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Example of Cases: Ng Chin Nee
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History Taking

1. Age/Race/sex
   56/M

2. K/C/O (Known case of@ co morbid)
   A. Exp: 1) DM 20 years
      Currently on T Metformin 500mg bd
      2) HPT
      Currently on? Follow up where?
   B. Previously healthy
   C. Refer from KK Taman Ehsan, differential diagnosis disease?

3. C/C (Chief complaints)
   A. State the **MAJOR** Problem in one or two of the patient’s own words. Do not use medical terminology.

   For example: Chest pain for 2 hours.
   Ask: “Encik, saya hendak tanya, kenapa encik datang ke hospital?”
   “Boleh saya tahu apa yang mengganggu encik”
   This generally tells you how to gear up your question for the ‘History of presenting illness’.
   B. Follow sequence based on time flow:

4. **HOPI (HISTORY OF PRESENTING ILLNESS):**
   Describe the onset, nature and course of each symptom.
   Important because it directs you to the system you would be concentrating during your physical examination.
   A- Describe the presenting complain as completely as possible.

   ‘SOCRATES drill’
   S - site
   O - onset
   C - character
   R - radiation
   A - associated symptoms
   T - timing
   E - exacerbating/alleviating factor
   S - severity (X/10)

   B- Eliminate causes that could present in a similar manner.
   Keep a **differential diagnosis in your mind** and ask questions accordingly.
   Include relevant positive and relevant negative

   Example: Chest pain
   Ask symptoms associated with
   • Myocardial Infarction
   • Pericarditis
   • Aortic dissection
   • Pulmonary embolism
   • Oesophageal spasm
Example:

**Relevant positive**

- Typical history, pain history
- ECG – hyperacute T waves
- Cardiac enzyme – troponin

**Relevant negative**

- X fever
- X cough
- X risk of DVT
- X related with food / lying flat

C- Thirdly, ask about the **any risk factors** and **relevant past history** for the diagnoses you might have in mind at this point.

For example:

Positive family history for ischemic heart disease,
Past medical history of angina or myocardial infarction,
Hypercholesterolaemia etc.

5. **PMHx (PAST MEDICAL HISTORY):**
   - Further Elaborate K/C/O
   - Write in chronological order.
   - Include important negatives

Example: Patient with chest pain you should ask about previous MI, angina, HT or DM and record whether these are present or absent.

- Must ask disease:
  Respiratory: Tuberculosis, asthma, bronchitis
  CVS: Hypertension, Ischemic heart disease, Rheumatic fever,
  CNS: Epilepsy, Cerebral-vascular event
  Liver: Jaundice
  Diabetes

'MJ THREADS'

M –
J -
T –
H –
R –
E –
A –
D –
S –

6. **PSHx (PAST SURGICAL HISTORY)**
   - What operation is done and date of operation
   - GA (General Anesthesia) / SA (Sacral Anesthesia)
If there is local anesthesia you should ask why choose local in the last operation? Maybe there is complication of GA

7. MENSTRUAL HISTORY
   - Regular/ Irregular?
   - ? Pack
   - Hx of flooding? Blood clot?
   - Intermenstrual bleeding
   - Menorrhagia? Dysmenorrhea?
   - OCP? Hormone pill?

8. FAMILY HISTORY
   - Includes any family member with similar conditions; parents health,
   - If diseased then cause of and age at death
   - Health of siblings
   - Any children and their health
   Example: Hypertension, hyperlipidemia, TB, DM, Ca
   → Draw family tree → inherited disease / Ca

9. SOCIAL HISTORY
   - Living conditions of the patient, for example: whether living alone or not, independent or has special helper to manage care at home, income etc.
   - Habits that are proven risk factors for certain disease.
     a. Smoking
        1 Pack per year = 20 cigarettes per day for 1 year
        No. Pack per year =
        Eg: 15 cigarettes per day, 40 years of smoking, pack per year =

     b. Alcohol intake specifying ‘present or previous intake’, ‘daily intake’, ‘intake over years’.
        Alcoholism screening test
        TWEAK
        Have u increased Tolerance of alcohol? 2pts
        Have close friends or relatives Worried or complained about your drinking in the past year? 2pts
        Do you sometimes take a drink in the morning when you first get up? (Eye opener) 1pt
        Has a friend or family member ever told you about things you said or did while you were drinking that you could not remember? (Amnesia) 1pt
        Do you sometimes feel the need to cut down on your drinking? 1pt

     c. If appropriate also ask about illicit drug use, sexual history, occupation and pets.

10. Allergy Hx
    - Ask for any allergies that the patient might have.
    - Drugs, food, environment
    - Traditional medicine (can promote renal and liver failure)
11. **Provisional Diagnosis or Impression**
   Most likely diagnoses
   In patients with multiple pathology make a problem list so the key issues are seen immediately

12. **DD (Differential Diagnosis)**

13. **Plan**
   List the investigations required.
   When a result is already available, for example of an ECG, record it.
   If uncertain about an investigation or treatment, precede with a “?” and discuss with a more senior member of staff
   E.g. 1) Fluids – 1 pint D5% over 24h
   2) Investigation: FBC/ RP/ LFT/ CXR/ECG
   3) Medication: IV Ranitidine 50Mg
   4) Other - refer Palliative
      - VS monitor every 4 hours
      - I/O chart
      - To D/W Mr. Ng for further management

14. **Management**
   Record any immediate management instigated

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**Presenting Summary:**

- 56/M/
- K/C/O
- Presented with the CC of
- Relevant HOPI
- @ this stage my provisional diagnosis is
- With the differential diagnosis of

---

**Example:** 56 years old Malay gentlemen, refer from ED, with known case of DM for 20 years currently on Metformin 500mg bd, HPT for 10 years, patient is not sure of the name of the medication for HPT. Currently patient is on follow up at KK Taman Ehsan for HPT.

Patient complaints of acute central pain which radiate to the left arm and neck, associated with dyspnea and palpitation, pain last more than 1 hour and intensity is 8/10 according to the patient. GTN doesn’t help.

Patient smokes 10 packs per year. Patient’s father passed away on 2003 due to AMI. Patient has past medical history of MI for 2 times, which is on 2005 and 2007.

At this stage my provisional diagnosis is Acute Myocardium Infraction with DD of Pulmonary Embolism and Pericarditis.

---

15. **O/E (GENERAL/ON EXAMINATION)**
   **On admission**
   - Physical appearance e.g. alert, drowsy, unconscious
   - Skin color: pink, cyanosis, pallor, jaundice
   - Ankle edema
• Clubbing
• Bp
• Pulse
• Temp
• RR

16. Systemic Review:
• CVS:  Peripheral Pulse: Good volume, regular rhythm
  Heart: DRNM
• Respi:  Lungs: Clear, A/E equal

• Abdomen/GU System:  P/A:

• CNS:  Cranial Nerves
  Peripheral Nerves
• PR: Inspection/ palpable mass/ color of stool

If it is revision of patient:
• I/O: 1500cc/1520cc
• -20cc
• RT / tapping : Volume/ color
  - 70cc (Greenish)
• Urine Output: 50-75cc/ hr
Examination of Respiratory System

1) 5 important things before you start examining patient:
   - I- Introduce
   - P- Permission
   - P- Position
   - E- Exposure
   - C- Comfortable

2) General Inspection (PCLCPRHNGMA)
   - P- Position
   - C- Comfort
   - L- Look
   - C- Consciousness
   - P- Pain
   - R- Respi Distress
   - H- Hydration
   - N- Nutrition
   - G- Gross deformity
   - M- Movement
   - A- Attachment

3) General Examination
   A) Upper Limbs
      i. Palms
      ii. Finger and nails
      iii. Dorsal part of hand
      iv. Wrist
      v. Pulse
      vi. BP
      vii. Flapping tremor (asterixis)
   B) Head
      i. Eyes
      ii. Nose and ears
      iii. Mouth and tongue
      iv. Character of cough
   C) Neck
      i. Jugular venous pressure
      ii. Trachea deviation
      iii. Tracheal tug
      iv. Distance from cricoid cartilage to suprasternal notch

   Horners syndrome:
   1) Ipsilateral partial ptosis
   2) Ipsilateral miosis
   3) Ipsilateral reduced sweating
   4) Enophthalmos

   Causes of tracheal deviation:
   a. towards the lesion
      - upper lobe collapse
      - upper lobe fibrosis
      - pneumonectomy
   b. away from the lesion
      - massive pleural effusion
      - tension pneumothorax
      - upper large mediastinal masses

   D) Lower Limbs
      --Pitting edema
4) Specific Examination of chest

A) Inspection
   i. Move symmetrically with each respiration?
   ii. Chest wall deformity?
   iii. Scars?
   iv. Dilated Veins?
   v. Skin Discoloration?
   vi. Visible pulsation?
   vii. Radiotherapy marking?

B) Palpation
   i. Chest expansion
   ii. Apex beat
   iii. Vocal Fremitus

C) Percussion
   i. Resonant
   ii. Hyperresonant
   iii. Dull
   iv. Stony dull

D) Auscultation
   i. Breath sound
      a. Intensity (normal, reduced, absent)
      b. Nature (vesicular, bronchial)
   ii. Added sounds
      a. Rhonchi
      b. Crackles
      c. Pleural Rub
   iii. Vocal Resonance

Ask the patient to sit up, repeat the examination on the back
   ➢ While percussing, ask the patient to move the elbows forward across the front of the chest to move the scapular away from the lung field.
   ➢ While the patient is sitting, palpate for cervical lymph nodes.
   ➢ Look for vertebral tenderness.
   ➢ Examine the heart for signs of cor pulmonale.
   ➢ Examine the sputum.

Example of conclusion: There’s pleural effusion over the left lower zone evidenced by reduced chest expansion, decreased vocal resonance and fremitus, stony dull notes and reduced breath sounds over the left lower zone.
Examination of the Cardiovascular System (CVS)

1. Introduce yourself and ask for permission to examine the heart. This is good bedside manner and will help to establish rapport with px.

2. Make sure the patient is positioned at 45° and adequately exposed.

3. Observe carefully for tachypnea, orthopnea, cyanosis, and “spot diagnoses” that are associated with heart diseases:
   -
   -
   -

4. Upper limbs:
   a) Palms
      - moisture -> dry @ moist
      - temperature -> warm @ cold
      - colour -> pink @ pale
   b) Finger
      - cyanosis -> peripheral cyanosis
      - capillary filling
      - clubbing
      - stigmata of IE:
        -
        -
      - tendon xanthomas
      - nicotine stain
   c) Pulse
      - Rate
      - Rhythm -> regular @ irregular
      - Volume -> good @ thready etc.
      - Character (particularly looking for collapsing pulse)
      - Radio – radial delay
      - Radio – femoral delay

5. Neck:
   a) Carotid pulse
      - Volume
      - Character
      - Bruits
   b) Jugular venous pressure

6. Head:
   a) Eyes
      - Conjunctiva -> pink @ pale (anemia)
      - Sclera -> jaundice?
   b) Mouth & Tongue
      - Tongue -> moist @ dry @ coated

Causes of elevated JVP
1.
2.
3.
4.
5.
6.
- Macroglossia (amyloidosis)
- Central cyanosis
- Dental hygiene
- High-arched palate (Marfan’s syndrome)

c) Face
- Pallor / plethora/ cyanosis
- Malar flush (mitral stenosis)
- Stigmata of hyperlipidemia & thyroid disease (xanthelasma)

7. Lower limb:

a) Pitting edema
b) Peripheral pulses -> present? symmetrical?
c) Cyanosis, cold limbs, trophic changes, ulceration (peripheral vascular disease)
d) Clubbing of toes

8. Examination of the praecordium

a) Inspection
- Chest wall movement -> move symmetrically?
- Chest wall deformity
- Surgical scar
  - Midline sternotomy
  - Mitral valvotomy scar below the breast
  - Pacemaker box
- Dilated vein
- Skin discoloration
- Visible pulsation
- Pericordial bulge

b) Palpation
- Apex beat (mitral area)
  - search for apex beat
  - locate apex beat
  - access character
- Mitral/tricuspid area and aortic/pulmonary area
  • Look for:
    - thrills
    - palpable heart sounds
      1st sound ->
      2nd sound ->
- Left parasternal heave
  - caused by: 1)
    2)

c) Auscultation
- Listen with bell at the apex beat
- Change to diaphragm -> listen again at apex beat -> trace up to axilla
- Listen at tricuspid, pulmonary, aortic area -> trace up R side of neck
- Sit the patient up and listen these 2 areas again
- Perform the dynamic maneuver (respiration) if murmur present
Listen at subclavian area, if suspect PDA

**Every auscultation, listen for:**
- 1st & 2nd heart sound & their intensity
- Extra heart sound (S3 & S4)
- Murmurs
- Additional sound (opening snap, systolic ejection click)
- Fixed splitting 2nd heart sound (only in pulmonary area, ASD)

**Heart sounds**

<table>
<thead>
<tr>
<th>1st HS (S1)</th>
<th>Loud: MS, TS, tachycardia, hyperdynamic circulation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Soft: MI, calcified mitral valve, LBBB, 1st heart block</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2nd HS (S2)</th>
<th>Aortic (A2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loud: congenital AS, systemic hpt</td>
<td></td>
</tr>
<tr>
<td>Soft: calcified aortic valve, AI</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3rd HS (S3)</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>left ventricular failure, AI, mitral incompetence, VSD, PDA, right ventricular failure, constrictive pericarditis</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4th HS (S4)</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS, acute mitral incompetence, systemic hypertension, IHD, hypertrophic cardiomyopathy, pulmonary hypertension, PS</td>
<td></td>
</tr>
</tbody>
</table>

**Auscultatory features of heart murmurs**

1) When does it occur?
- Time the murmur using heart sounds, carotid pulse and the apex beat, is it systolic or diastolic?
- Does the murmur extend throughout systole or diastole or is it confined to a shorter part of the cardiac cycle?

2) How loud is it? (intensity)
- **Grade 1:** Very soft (only audible in ideal conditions)
- **Grade 2:** Soft
- **Grade 3:** Heard all over the precordium
- **Grade 4:** Loud, with palpable thrill (ie, a tremor or vibration felt on palpation)
- **Grade 5:** Very loud, with thrill. May be heard when stethoscope is partly off the chest
- **Grade 6:** Very loud, with thrill. May be heard with stethoscope entirely off the chest

3) Where is it heard best? (location)
- Listen over the apex and base of the heart, including the aortic & pulmonary areas

4) Where does it radiate?
- Evaluate radiation to the neck, axilla or back

5) What does it sound like? (pitch & quality)-> harsh/blowing/rough
- Pitch is determined by flow (high pitch indicates high-velocity flow)
- Is the intensity constant or variable?
<table>
<thead>
<tr>
<th>Systolic</th>
<th>Diastolic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Mid systolic ejection murmur</td>
<td>1) Early distolic murmur</td>
</tr>
<tr>
<td>- Aortic/Pulmonary stenosis</td>
<td>- Aortic regurgitation</td>
</tr>
<tr>
<td>- Anemia</td>
<td>- Pulmonary regurgitation</td>
</tr>
<tr>
<td>- Pregnancy</td>
<td></td>
</tr>
<tr>
<td>- Hyperthyroidism</td>
<td></td>
</tr>
<tr>
<td>2) Late systolic murmur</td>
<td>2) Mid diastolic murmur</td>
</tr>
<tr>
<td>- mitral valve prolapse</td>
<td>- Mitral stenosis</td>
</tr>
<tr>
<td>- papillary ms dysfunction</td>
<td>- Tricuspid stenosis</td>
</tr>
<tr>
<td>3) Pansystolic murmur</td>
<td>3) Late distolic (presystolic) murmur</td>
</tr>
<tr>
<td>- Mitral regurgitation</td>
<td>- Complete heart block</td>
</tr>
<tr>
<td>- Tricuspid regurgitation</td>
<td></td>
</tr>
<tr>
<td>- VSD</td>
<td></td>
</tr>
</tbody>
</table>

Mr ASS

Mitral regurgitation  Aortic stenosis  =  Systolic murmur

Ms ARD

Mitral stenosis  Aortic regurgitation  =  Diastolic murmur

rIght-sided murmurs-louder with Inspiration
lEft-sided murmurs- louder with Expiration

9) Other relevant systemic examination
- Percuss the lungs for an effusion
- Auscultate the bases for signs of CCF
- Check for sacral oedema
- Palpate liver & spleen; any shifting dullness?
- Take the blood pressure (UL & LL -> if suspect coarctation of aorta)
- See the temperature chart, urine analysis and fundi (esp. in IE)

*** DDx of chest pain
1) Anxiety/emotion
2) Cardiac: angina, MI, myocarditis, pericarditis, mitral valve prolapse
3) Aortic: aortic dissection, aneurysm
4) Esophageal: esophagitis, esophageal spasm, Mallory-Weiss syndrome
5) Lungs/pleura: bronchospasm, pulmonary infarct, pneumonia, tracheitis, pneumothorax, pulmonary embolism
6) Musculoskeletal: osteoarthritis, rib fracture/injury, intercostal ms injury
7) Neurological: prolapsed intervertebral disk, herpes zoster
**CARDIOVASCULAR EXAMINATION**

**Face**
- Central cyanosis
- Polycythemia
- Oral cavity - dental hygiene, signs of HIV infection

**Neck**
- JVP - use torchlight!
- Palpate carotid thrill

**Hands**
- Clubbing, cyanosis
- Stigmata of bacterial endocarditis
- Radial pulse - rate, rhythm, collapsing pulse, radiofemoral delay*, radial-radial delay

**Position**
- Prop up the head of bed to 45 degrees

**Introduce yourself**
- Shake the patient’s hand

**Precordium**
- Inspection - surgical scar
- Palpation - apex beat, left parasternal heave, loud S2, thrill

**Lungs**
- Basal crackles

**Abdomen**
- Hepato-/ splenomegaly

**Legs**
- Ankle edema

*do not postpone this till the end of examination - you will forget about it.
**everytime you auscultate, your left thumb should be on the carotid pulse.

**Excuse me Sir, I would like to complete my examination by checking the:**
- Fever chart, urine - haematuria
- Fundus, blood pressure
Examination Of The Gastrointestinal System

Before beginning
- Introduction
- Permission
- Positioning
- Exposure
- Comfortable

General Inspection
- PCLCPRHNGMA

General Examination
1. Upper limb
   a) Palms
      - Moisture
      - Temperature
      - Color
      - Palmar erythema
      - Dupuytren contractures
   b) Finger & nails
      - Cyanosis
      - Clubbing
      - Leuconychia
      - Wasting of interossei, thenar and hypothenar
   c) Pulse
      - Rate
      - Rhythm
      - Volume
   d) Forearm & arm
      - Scratch marks
      - Bruising
   e) BP
   f) Flapping tremor

2. Head
   a) Eyes
      - Conjunctiva
      - Sclera
   b) Mouth & tongue
      - Tongue: moist, dry, coated
      - Central cyanosis
      - Glossitis
      - Angular stomatitis
   c) Breath
      - Fetor hepaticus
3. **Chest wall & axilla**
   a) Spider nervi
   b) Gynaecomastia
   c) Axillary hair loss

4. **Lower limbs**
   a) Pitting edema

**Specific Examination of the Abdomen**

**Inspection:**
- Shape (distended? Flat? Scaphoid?)
- Symmetry/ not?
- Movement with respiration?
- Position of umbilicus (displaced? Inverted? Everted?)
- Surgical scars
- Prominent of dilated veins (Harvey’s sign for diff diagnose)
- Skin discoloration
- Visible pulsation
- Cough impulse
- Visible Peristalsis

<table>
<thead>
<tr>
<th>Summary of Inspection (example)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The abdomen is not distended, moves symmetrically with each respiration.</td>
</tr>
<tr>
<td>Umbilicus is centrally located and inverted</td>
</tr>
<tr>
<td>No surgical scar, dilated veins, skin discoloration, visible pulsation were observed</td>
</tr>
</tbody>
</table>

**Palpation and Percussion**

Before you begin: Please remember!!!
- Stand beside patient’s right side
- Make sure hands are warm
- Ask the presence of painful area
- Palpate gently in 9 quadrants
- Look at patient’s face while palpating

**Purpose of Palpation**

1. **Superficial Palpation**
   - Consistency (soft/tense)
   - Tenderness (include guarding, rigidity, rebound tenderness)

2. **Deep Palpation**
   - Deep tenderness
   - Palpate for masses & solid viscera

**For Palpation of Masses**
- Site
- Shape
- Size
Surface  
Consistency  
Edge  
Tenderness  
Pulsatile  
 Mobility  
Movement with respiration  
Whether can get above the mass or not  
Fluctuation test & fluid thrill

**Auscultation**

1) Bowel sound  
   - At lower right of umbilicus  
   - Describe its character, intensity, frequency)  
   - Normal????

2) Renal bruits  
   - At upper left and right of umbilicus

3) Enlarged liver, mass

<table>
<thead>
<tr>
<th>Short Summary:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The abdomen is soft and non tender.</td>
</tr>
<tr>
<td>There were no mass on deep palpation</td>
</tr>
<tr>
<td>Liver was palpated 2cm below costal margin, it was firm, smooth surface,well defined margin, non tender, non pulsatile.</td>
</tr>
<tr>
<td>No bruits was heard</td>
</tr>
<tr>
<td>Spleen and kidney were non palpable</td>
</tr>
<tr>
<td>Shifting dullness was negative</td>
</tr>
<tr>
<td>Bowel sound were present with normal intensity</td>
</tr>
<tr>
<td>No renal bruits</td>
</tr>
</tbody>
</table>
Examination of the Central Nervous System (CNS)

General Examination
5 imp things b4 you start:
-IPPEC- Introduce, Permission, Position, Exposure, Comfort.
  Position: Sitting for cranial nerve examination, lying for general & LL examination.
-Then do a 10 s inspection - PCLC PR HN GMA

Neurological Examination

Mental State Examination (MSE)
- Level of consciousness
- Handedness
- Orientation to time, place, person
- Speech
- Abnormal movement : tremor
- Short, long term memory
- General Knowledge
- Posture

Cranial Nerve examination
1) Smell and Taste - CN I – Olfactory
   - CN VII + CN XII- Taste
   “Did you notice any changes in your taste or smell? “
   Close one nostril → close eyes → take bottle with coffee → ask the patient what is that.

2) CNII- Optic Nerve- Sensory
   4 components:
   a. Visual acuity
      i. Ask: “Do you have any difficulty with your vision?”
      ii. If you don’t have Snellen chart can ask patient to read from anything. Make sure he wears his glasses.
   b. Color Vision
   c. Visual Field
      i. Confrontation test
      ii. “Point to the moving finger”
      iii. In visual inattention (parietal lobe lesions), the patient will only point to one finger when you move both simultaneously.
      iv. Peripheral Visual Field- “Can you see the whole of my face “ “Tell me when you see my moving finger”
      v. Central visual field – “Tell me when the head of red pin disappears and then reappears”.
   d. Fundoscopy

3) Pupils – CNIII
   a. Size    Shape    Equality    Regularity
   b. Light Reflex : Direct and consensual
   c. Reaction to accommodation

4) Eye Movements- CN III, IV, VI
   a. Inspection: Ptosis
   b. “Look at my finger and follow it with your eyes” “Tell me when you see double”
   c. Move your finger in “H” pattern, from side to side then up and down.
   d. Observe for nystagmus
5) Facial Sensation (CN V-sensory)
   a. Pin prick – Pain
   b. Cotton wool – Light sensation
   c. Corneal reflex
   d. Jaw Jerk

6) Facial Movements – CN V, VII
   a. Clench your teeth’ “Open your mouth; don’t let me close it” → CNV
   b. CNVII
      1) “Raise your eyebrows”
      2) “Screw your eyes up tight”
      3) “Blow your cheeks out”
      4) “Smile”

7) Hearing -CN VIII
   a. “Do you have any problem with your hearing?”
   b. Weber, Rinne Test – Use 512 Hz tuning fork

8) Palatal movement (CN IX, X)
   a. “Open your mouth, please say aah”
   b. Check for Assymetry of palatal movement, Uvula deviation
   c. Gag reflex.

9) CN XI – Accessory Nerve
   a. Shrug you shoulder – don’t let me push them down”
   b. “Turn your head to the left and then right”

10) The tongue – CN XII
    a. Observe the tongue as it lies in the floor of the mouth for wasting and fasciculation (CN XII).--- LMN
    b. “Please stick out your tongue” Note any deviation (CN XII).

Upper Limbs
Divided into – Motor and Sensory system

<table>
<thead>
<tr>
<th>Inspection</th>
<th>3S</th>
<th>W</th>
<th>A</th>
<th>D</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symmetry</td>
<td>Wasting</td>
<td>Attitude &amp; Posture</td>
<td>Deformity</td>
<td>Fasciculation</td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td>Scar</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pronator Drift
- Ask the patient to put the palms down then close eyes few sec later turns palms up.
- Weak arm usually pronates and drift downwards.
- 3 cause:
  1) 
  2) 
  3) 

Tone
- Ensure the patient is relax
- Asses the tone by:
1) Rotation, Supination and pronation of the elbow joints
2) Flexing and extending the elbow and wrist joint
- Normal
- Increased (hypertonic) →
- Decreased (hypotonic) →
- Cog Wheel →

**Power**
- Compare muscle power by “fighting” against the patient.
- Assess by “active movement”.

<table>
<thead>
<tr>
<th>POWER GRADE</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0/5</td>
<td>No movement</td>
</tr>
<tr>
<td>1/5</td>
<td>Barest flicker of movement of the muscle, though not enough to move the structure to which it’s attached.</td>
</tr>
<tr>
<td>2/5</td>
<td>Voluntary movement which is not sufficient to overcome the force of gravity. For example, the patient would be able to slide their hand across a table but not lift it from the surface.</td>
</tr>
<tr>
<td>3/5</td>
<td>Voluntary movement capable of overcoming gravity, but not any applied resistance. For example, the patient could raise their hand off a table, but not if any additional resistance were applied.</td>
</tr>
<tr>
<td>4/5</td>
<td>Voluntary movement capable of overcoming &quot;some&quot; resistance</td>
</tr>
<tr>
<td>5/5</td>
<td>Strength</td>
</tr>
</tbody>
</table>

**Reflex**
- Biceps Reflex (C5,C6)
- Triceps Reflex (C7,C8)
- Supinator Jerk (C6,C7)

**Tendon Reflex Grading Scale**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Absent</td>
</tr>
<tr>
<td>1+ or +</td>
<td>Hypoactive</td>
</tr>
<tr>
<td>2+ or ++</td>
<td>&quot;Normal&quot;</td>
</tr>
<tr>
<td>3+ or +++</td>
<td>Hyperactive without clonus</td>
</tr>
<tr>
<td>4+ or ++++</td>
<td>Hyperactive with clonus</td>
</tr>
</tbody>
</table>

**Sensory system**
- Pain
- Light touch
- Joint position
- Vibration
- Temperature

**Lower Limb – Motor system**
- Inspection - 3S W A D F
- Tone and clonus
- Tone – Relax the patient and:
• 1) Flex – extend the knee joint
• 2) Roll the patient leg from side to side
• 3) Flex and extend the ankle joint

Clonus ---

**Power**
- Hip flexion and extension
- Hip abduction and adduction
- Knee flexion and extension
- Dorsiflexion and plantarflexion
- Toe extension and flexion

**Reflex**
- Knee jerk (L3-4)
- Ankle Jerk (S1-2)
- --- when it’s absent ask the patient to clench teeth / pull clasped hand apart
- Babinski reflex (L5, S1-2)
  - Extension of big toe

**Sensation**
- Pain
- Light touch
- Temperature

**Vibration**
- Use a 128 Hertz tuning fork.
- Compare with the opposite side.
- Use the medial malleolus at the ankles, over the patella at the knees and the anterior superior iliac spine in the hips
- Appreciation of vibration may also be lost in tabes dorsalis, in peripheral neuropathies.

**Joint position**
- Hold the lateral aspect of the big toe (not the dorsum of the toe) and move it gently up and down (do not move too wide an arch). The examiner’s fingers should not rub against the skin of the adjoining toe during the test.

**Coordination**
- Upper limb
  - Finger nose test
  - Rapidly alternating movements
- Lower limb
  - Heel-shin test

**Gait and Rhomberg test**
- Ask the patient to walk
  1) Walk normally
  2) Walk heel- to –toe
  3) Walk on toes
  4) Walk on heels
  5) Stand up from squatting
6) Stand with heels together, first with eyes open then with eyes closed

**Summary:**

On examination there is evidence of hypotonia, reduced power (grade 3/5) affecting all limbs and absence of deep tendon reflexes. Plantar response was absent. There was reduction of pin-prick sensation till just inferior to the supra-clavicular fossa.
Example of Cases

Case 1
Mr A / 36 / I/ M
K/C/O: 1) DM since early 2009
   - T. metformin 500mg BD
   - under KK f/up

   2) HPT – not on any medication

   3) Hx of left hemiparesis in Oct 2008
   - went for traditional massage
   - sx resolved after 1/52

   ****not compliant to meds

C/O: sudden syncopal attack at 3pm
***unable to get full hx as the witness (friend) was not around

What is your further management?

Case 2
Ms C/ 60/ M/ F
K/C/O: 1) HPT for 5 years on T atenolol 100mg OD – under GP f/up

   2) Rt hydronephrosis with non-functioning Rt kidney under HKL urolody
   R kigney-poorly perfused with very poor selective tracer acumulation, no excretion, 12% with GFR of 6ml/min
   L kidney-normally perfused kidney, 88% with GFR 44ml/min

   3) Rt breast CA- MAC done, Inv lobular CA – post chemo 5th cycle on 3/8/09
   *not known to have DM/ IHD

C/O:
Generalised weakness 8/7 since chemo

What is your further management?
Case 3  
Ms S/ 22 / C/ F  

K/C/O: NKC  

C/O:  
Fever for 3 days, headache, pain in joints and limbs, pain behind eyes, rash  

What is your further management?