Case 16

You are the Foundation Year 1 doctor on Gastroenterology at General Hospital.

Your bleep number is 7560 and your GMC number is 49910.

The consultant is Dr Gooding.

Patient details

Patient name: Joanne Carter
Date of birth: 14th March 1933
Patient number: X859143910

History

Joanne Carter was admitted to the gastroenterology ward yesterday due to difficulty swallowing leading to malnutrition and dehydration. Mrs Carter is currently being treated with chemotherapy for oesophageal cancer. She has been assessed by the speech and language team who have determined that her swallow is unsafe and that she is at risk of choking and aspiration.

This is communicated to the patient by Dr Gooding and it is decided that a nasogastric tube should be inserted and enteral feeding commenced.

The NG tube is inserted but there is no aspirate.

An AP chest x-ray is recorded, which is shown below:

Patient: Joanne Carter
DOB: 14/03/1933 Hospital #: X859143910
Time: 09:50 Date: 28/03/2023
Position: AP

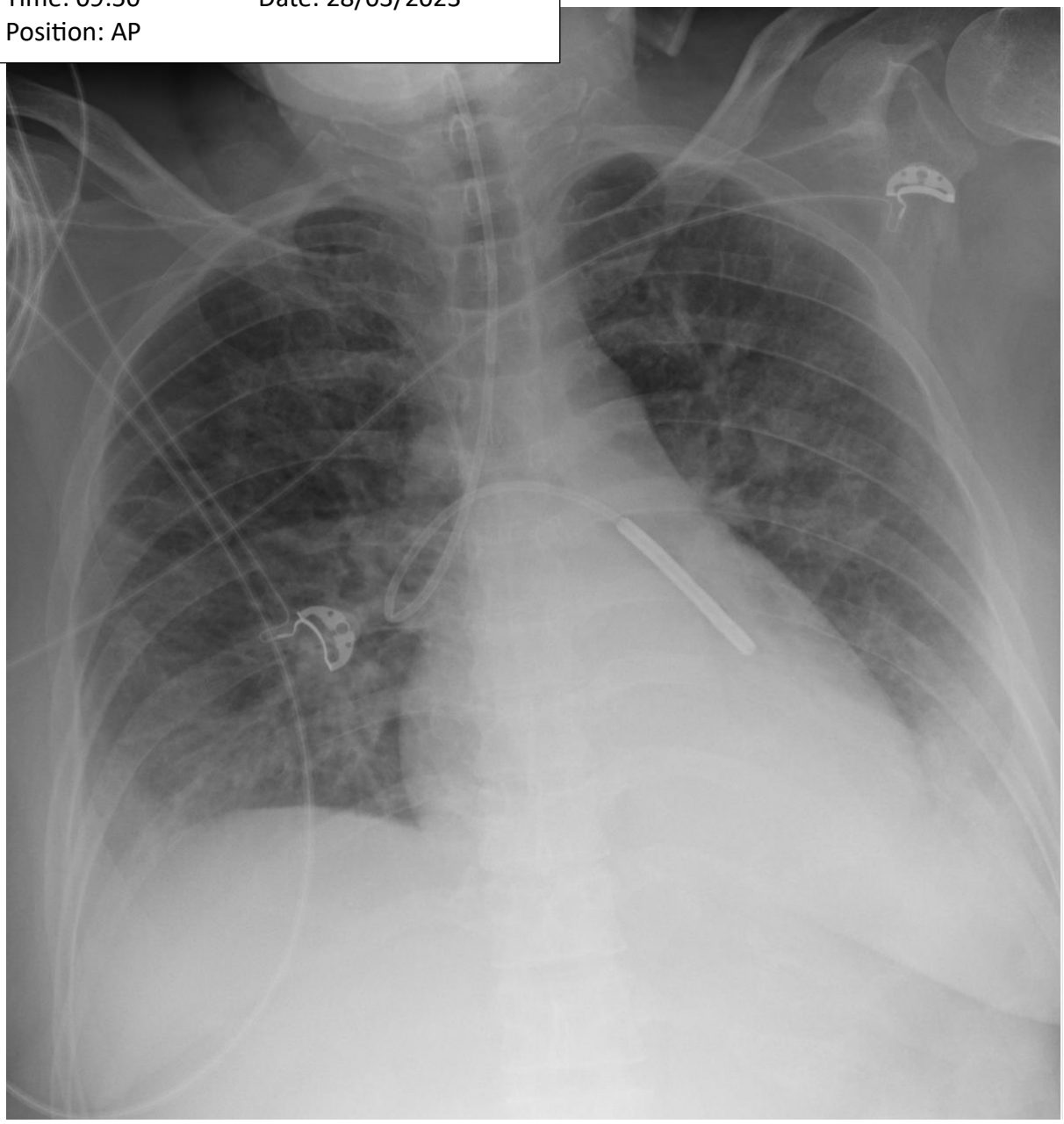


Image courtesy of Frank Gaillard, Radiopaedia.org, rID: 32358

Task

Please report the chest radiograph on hospital notepaper, focussing on the position of the nasogastric tube. Comment on whether it is safe to begin enteral feeding and justify your decision.

Hospital: General Hospital **Patient name:** Joanne Carter

Ward: ED **Date of birth:** 14/03/1933

Consultant: Dr Gooding **Hospital number:** X859143910

Date/Time	Documentation
28/03/2023	FRED JONES FY1
1000	Report on chest radiograph of Joanne Carter, DOB
i.e. today's date	14/03/1933 recorded today (28/03/23) at 0950 to check
	position of nasogastric tube.
	Rotation, inspiration and exposure are adequate.
	Position is AP.
	The nasogastric tube initially follows the midline of the thorax.
	It does not bisect the carina or cross the diaphragm.
	It coils at the carina and enters the left bronchus.
	The tip is <u>not</u> situated in the stomach.
	NG tube incorrectly situated. Do NOT feed.
	Plan:
	1. Resite NG tube.
	2. Confirm position with tube aspirate or x-ray.
	3. Seek senior input
	F. Jones
	FRED JONES (FY1)
	Bleep: 7560

Explanation

When reporting on nasogastric tube position one needs to confirm **4 things. These are** that the tube:

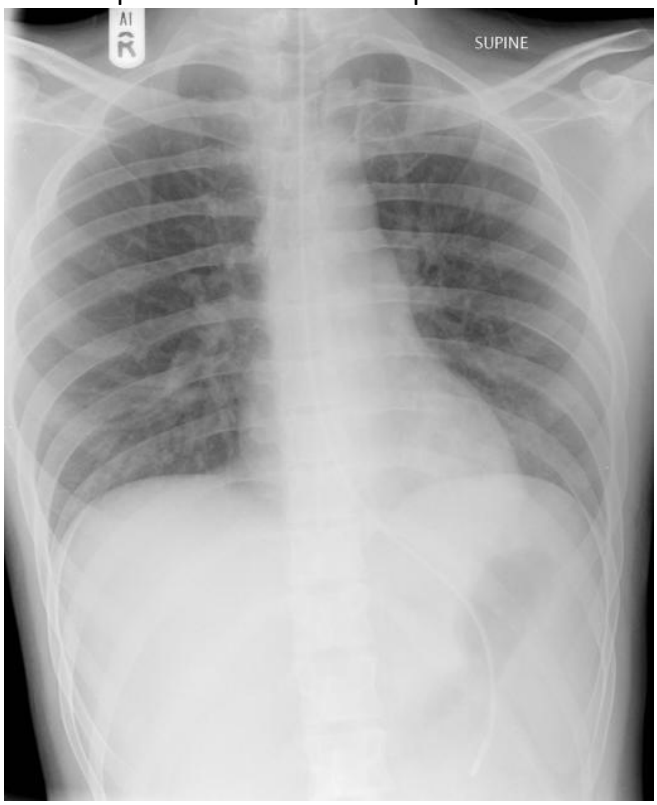
1. descends along the midline of the thorax,
2. bisects the carina,
3. crosses the diaphragm, and
4. that the tip sits in the stomach.

If the tube is mispositioned, it should be resited immediately.

A brief guide to reporting on nasogastric tube placement can be found on radiopedia:

https://radiopaedia.org/articles/nasogastric-tube-position-on-chest-x-ray-summary?lang=gb

An example of correct NG tube placement is shown below:



Case courtesy of Ian Bickle, Radiopaedia.org, rID: 29342

Feeding via a misplaced nasogastric tube can have potentially fatal consequences due to aspiration pneumonia. It is one of the 8 'never events.'

Consequently the position of the NG tube must be checked with tube aspirate (pH <5.5 = safe to use) or x-ray (if pH >5.5 / there is no aspirate.)

If placing the NG tube is proving difficult (e.g. due to strictures/obstruction) then it can be inserted using fluoroscopic guidance in the radiology department.

Some extra interpretation of the x-ray:

If the focus of the question was not on the nasogastric tube, further findings that could have been reported on the x-ray might include:

Airway: trachea and mediastinum are central
Breathing: no pneumothorax. Increased opacity in lower zones of both lungs, suggestive of consolidation.
Cardiovascular: cannot comment on cardiothoracic ratio due to AP position.
Diaphragm: no free air under diaphragm. Blunting of costophrenic angles bilaterally.
External objects: no evidence of fracture or soft tissue injury. ECG stickers visible.