



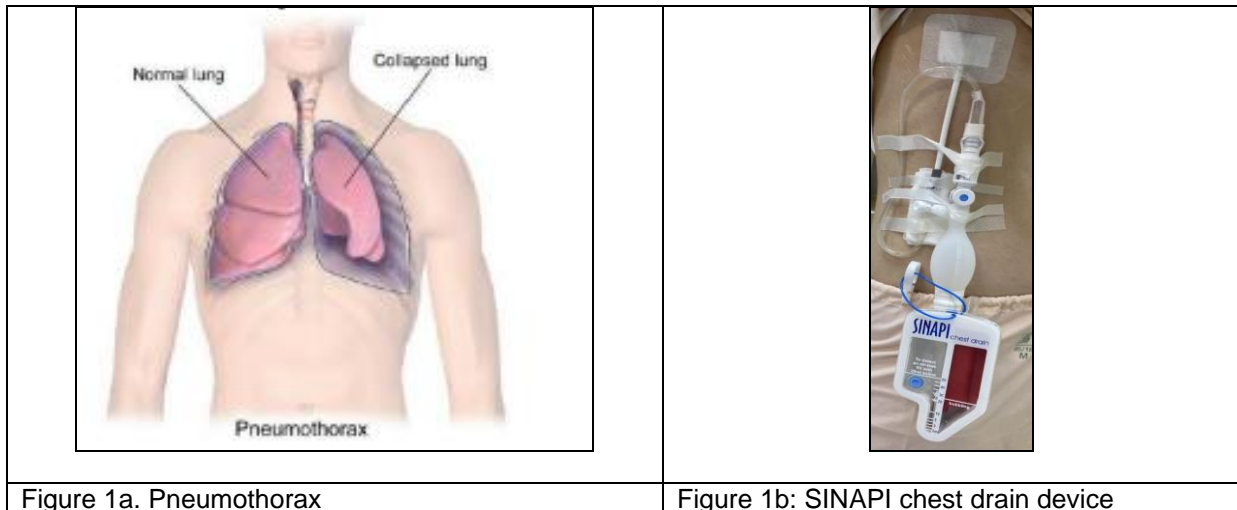
## Patient and Family Education: Caring for a chest drain and SINAPI device

Dear Patient,

The following instructions contain general information and advice regarding your condition and are designed to provide you with a guide on how best to safeguard your health. However, they are not intended to be exhaustive instructions. In specific cases you may receive different/additional instructions from your doctor. You are advised to follow any specific written or oral instructions given to you by your doctor or healthcare worker. Please seek clarification in case of doubt.

### General Information

- A pneumothorax (Figure 1a) occurs when air enters the space between the lung and the chest wall, causing the lung to collapse away from the chest wall. The most common symptoms are chest pain or shortness of breath.
- A pneumothorax can occur spontaneously (without injury) due to an air leak from the lung. People with underlying lung problems can develop a pneumothorax due to lung disease. A pneumothorax may also occur in those with no previous lung disease (often younger people, particularly taller men). Approximately 3 in 10 people may have a recurrence of pneumothorax.
- In some cases of spontaneous pneumothorax, the air leak may heal on its own. Air is gradually reabsorbed into the surrounding tissues, allowing the lung to re-inflate. In other cases, because of significant symptoms or a large air leak, further intervention is required, such as insertion of a chest drain to let air out of the chest.



### Chest drain attached to a one-way valve

A chest drain is a flexible tube placed through the chest wall into the space between the lung and the chest wall. This procedure is performed with a local anaesthetic injection. The chest drain may be connected to a one-way valve, such as the SINAPI device (Figure 1b). The valve lets air (and sometimes fluid) out of the chest, allowing the lung to re-inflate. Depending on your condition and on the advice of your doctor, you may be suitable for discharge with a chest drain attached to a SINAPI device. You will be given an appointment for close review after discharge. When your lung has healed and the pneumothorax has resolved, the device and drain may be removed. This can be done in an outpatient setting.

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Upon discharge, please take note of the following:

**1. Activity / Rehabilitation**

- You may remain active but **avoid strenuous exercises and activities**, which may cause injury or accidental dislodging of the chest drain/SINAPI device.
- Wear loose fitting clothes over the top
- **Avoid water sports such as swimming, or taking a bath in a tub**, to prevent the dressing and device from getting wet. Showering is possible but requires you to keep the SINAPI device dry.
- **Avoid air travel and scuba diving** until you obtain advice from your doctor
- **Stop smoking** as it puts you at much higher risk of recurrence of the pneumothorax.

**2. Nutrition/ Diet**

- There are no restrictions on your diet.

**3. Safe and effective use of medication**

- Take prescribed medications as instructed.

**4. Care of the chest drain and SINAPI device**

- **Keep the chest drain site and dressing clean and dry.** A wet dressing encourages infection.
- You may shower as usual while having a chest drain. Cover the dressing with waterproof material such as a plastic film. Place the SINAPI device in a clean plastic bag while in the shower. **Remove the plastic bag/cover after your shower.**
- Do not take a tub bath or submerge the SINAPI device in water.
- **Never try to block the drainage hole of the SINAPI device** with any material (Figure 2). Air from your chest will not be able to escape if this hole is blocked.
- **Avoid pulling or twisting of the chest drain.**
- Keep the dressing intact, and the drain properly secured.
- Occasionally, fluid can accumulate within the SINAPI device. The fluid may be slightly blood-stained. **The SINAPI device can collect fluid up to a maximum capacity of 50 ml. Excess fluid can be removed** from the SINAPI device with syringes (Figure 3a, 3b and 3c). It is important to wash your hands well before doing this and taking care not to touch the tip of the syringe or the port with your fingers. The amount of fluid can be measured from the markings on the syringe and recorded down. Please discard fluid into a small plastic container and empty it into the toilet.
- Do not attempt to remove any stitches (if present) on your own.
- Do not apply any ointment, powder, or lotion onto the chest drain site, unless instructed by your doctor.



**Figure 2:** Do not occlude the drainage hole of the SINAPI chest drain device



**Figure 3a:** Use an alcohol wipe to clean the surface and let it dry



**Figure 3b:** Gently push and twist the tip of the syringe into the port (blue rubber bung)



**Figure 3c:** Pull the plunger to remove fluid

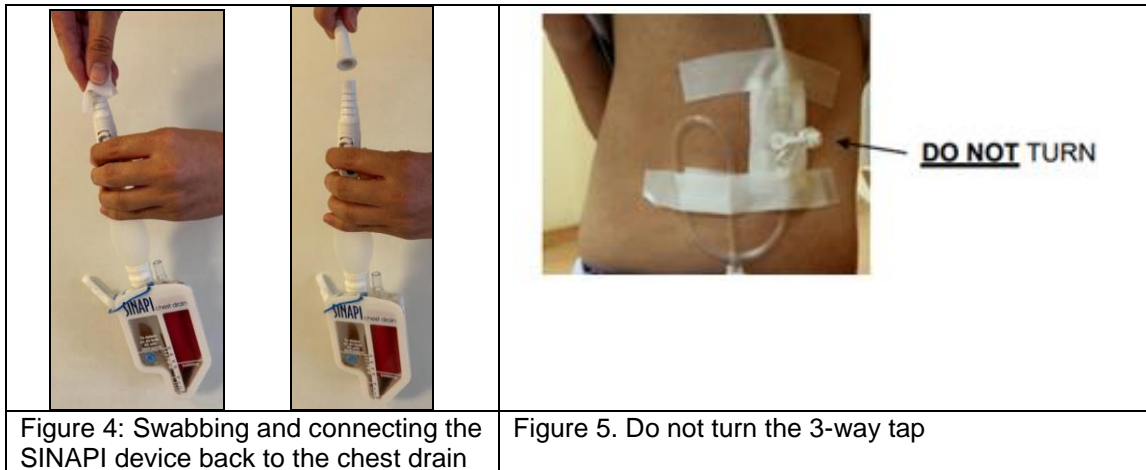
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## 5. Special Instructions

- The SINAPI device should never be disconnected from your chest drain. If it becomes disconnected, follow these steps:
  - i. Swab the white port at the top of the SINAPI device and reconnect it immediately by inserting the white port into your chest drain. (Figure 4)
  - ii. Seek medical consultation with your doctor at the Specialist Outpatient Clinic or Pleural Service Nurse during office hours, or consult the emergency department after office hours.
- **DO NOT turn the 3-way tap** of the chest drain (Figure 5)
- If the chest drain accidentally falls out, **do not reinsert the chest drain on your own. Instead, cover the ex-drain site with a gauze and seek medical attention immediately.**



## 6. Pain Management

- You may feel some discomfort from the chest drain. Your doctor will prescribe pain medications, should you require it.

## 7. When and how to seek further treatment

Seek medical treatment at the Emergency Department should the following conditions occur:

- Fever (38°C and above) and
- Swelling, redness, pain, itch or discharge from the catheter site
- Stitches that have become loose or dropped off
- Increased shortness of breath or pain not relieved by prescribed medications
- Leakage from the catheter exit site.

If you need to clarify on any of the above conditions, you can contact the Pleural Service Nurse at 8499 7562 during office hours of Monday to Fridays 0800 to 1700 hours, excluding public holidays.

## 8. Follow-Up Appointment

- Keep your appointment(s) as scheduled.
- For any change of appointment(s), please call the Singapore General Hospital appointment hotline at 6321 4377 **OR** email to [appointments@sgh.com.sg](mailto:appointments@sgh.com.sg).

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## Hand hygiene technique with soap and water

Duration: 40 – 60 sec

Wet hands with water. Apply enough soap to cover all surfaces. Rub hands palm to palm.



Rotational rubbing of right thumb clapsed in left palm and vice versa.

Right palm over left dorsum with interlaced fingers and vice versa.



Rotational rubbing, backwards and forwards with clapsed fingers of left hand in right palm and vice versa.

Palm to palm with fingers interlaced.



Wrap left hand over right wrist using rotational movements up to elbow and vice versa. Rinse with water.

Back of fingers to opposing palms with fingers interlocked.



Dry thoroughly with paper towel. Use paper towel to turn off the tap or faucet.

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## Hand hygiene technique with alcohol-based formulation

Duration: 15 – 20 sec

Apply adequate amount of the product in a cupped hand and cover all surfaces. Rub palm to palm.



Rotational rubbing of right thumb clapsed in left palm and vice versa.

Right palm over left dorsum with interlaced fingers and vice versa.



Rotational rubbing, backwards and forwards with clapsed fingers of left hand in right palm and vice versa.

Palm to palm with fingers interlaced.



Wrap left hand over right wrist using rotational movements up to elbow and vice versa.

Back of fingers to opposing palms with fingers interlocked.



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