



# Wound and Abscess Care

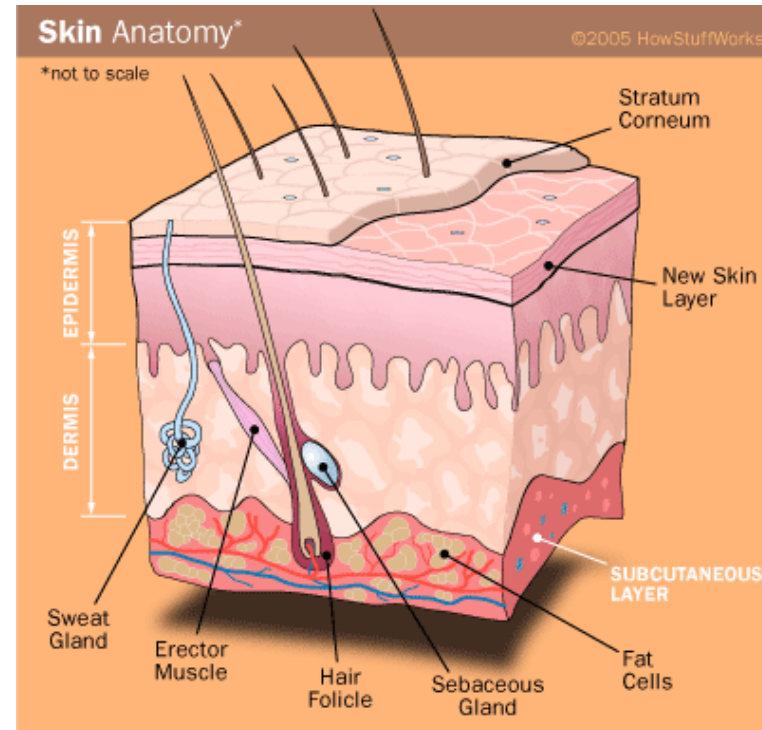
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Jane Haywood-Farmer

# The Skin

- The skin has several layers including the epidermis and dermis that protect us from infections.
- Infections may form when bacteria enters and becomes trapped in hair follicles, sweat glands, oil glands.
- Infections also occur when the skin is broken and bacteria enter blood vessels - capillaries, veins and arteries.

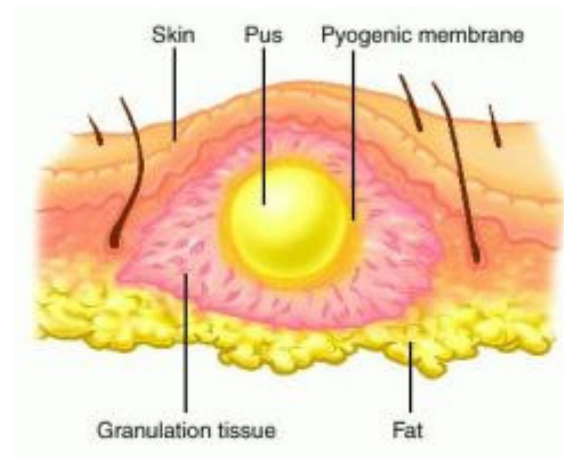


# Abscesses

An **abscess** is an enclosed localized collection of **pus** surrounded by **inflamed** tissue.

Generally develops in response to **infection**

Often forms when foreign bacteria (such as bacteria from the skin surface) are introduced beneath the skin  
- eg. via injection, cuts, wounds etc.



# Abscess Formation

Abscesses often form for many reasons:

- Pushing dirt and bacteria in when injecting
- Using drugs that contain bacteria and dirt
- Missed hits
- Injecting certain drugs such as speedballs, wellbutrin, cocaine
- Skin popping or injecting into the muscle
- Poor hygiene





# Assessing Abscesses

- Redness of skin in Caucasian people
- Raised skin
- Pain and tenderness
- Warm to touch
- Hardened tissue
- Drainage of pus if it has burst / been lanced
- Possible foul smell if draining

# Abscess Example







# Caring for Abscesses

- **Seek medical attention!** The abscess will be treated with antibiotics and/or lancing and draining to abscess. The abscess may also need to be packed with dressings.
- Applying warm compresses without pressure for 20 minutes 6-8 times per day before the abscess is lanced can help.

## Do not:

- ❑ Try and lance/drain the abscess on your own. This can spread infection - without appropriate antibiotics blood poisoning can develop fast
- ❑ Use antibiotics off the street, as they may not be the appropriate type.
- ❑ Inject near an abscess. Give that area time to heal
- ❑ Rub with alcohol, iodine or hydrogen peroxide when the abscess has ruptured... this slows healing!
- ❑ Leave an abscess to get better on its own.



## Vitamin Care



Appropriate levels of vitamins in the body has been shown to speed healing of abscesses and other wounds.

- **Vitamin C** and **Zinc** support the immune system in fighting infections, the healing process and in preventing infection recurrence.
- **Vitamin A** and **Vitamin E** support immune function in fighting infections and contribute to general skin health.

Note: Vitamin A, Vitamin E and Zinc are fat-soluble and can become toxic if too much is taken. Counsel clients appropriately.



# Healing Abscesses

- Some abscesses seem to take a very long time to heal and leave a lot of scar tissue.
- If an abscess is not healing after lancing, but is no longer infected, the client should see a RN who can use particular dressings to help it heal.
- Dressings that contain silver seem to work well.

# Cellulitis

- Inflammation of the skin and connective tissue (fat tissue under the skin).
- Appearance:
  - Redness of skin that may rapidly expand
  - Warmth
  - Tenderness
- Caused by bacteria entering the body through injections, cuts, blisters and burns.
- Often caused by missing the vein or “digging” around with the needle.
- Applying ice helps, but usually requires antibiotic treatment – send clients to a medical clinic for treatment.

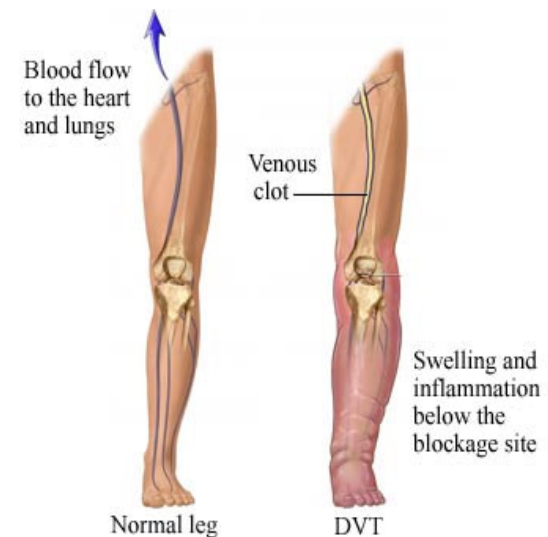


# Blood Clots and Embolisms

- An embolism is a blood-clot that is floating through the veins. They can get lodged in various parts of the body.
- Caused by injecting dirt, scaring veins and veins that are collapsing.

## Signs

1. Swelling and pain in arm or leg.
2. If in lungs, shortness of breath, loss of consciousness or death.
3. If in brain (a stroke), blurred vision, slurred speech, fainting, unconsciousness



**Seek medical attention right away!!!**



# MRSA

- Those suffering from MRSA symptoms tend to develop:
- Abscesses
- Boils (hair follicles become infected and filled with pus),
- Carbuncles (Like a large abscess, often with several heads apparent on the skin)
- Cellulitis
- Impetigo (pus filled blisters)
- Styes (painful swollen infection of eye lid and local glands)

If a client is repeatedly developing these types of wounds and is using safer injection techniques, they may have MRSA.

Antibiotic treatment is needed to treat MRSA.

# Wounds Prone to Tetanus

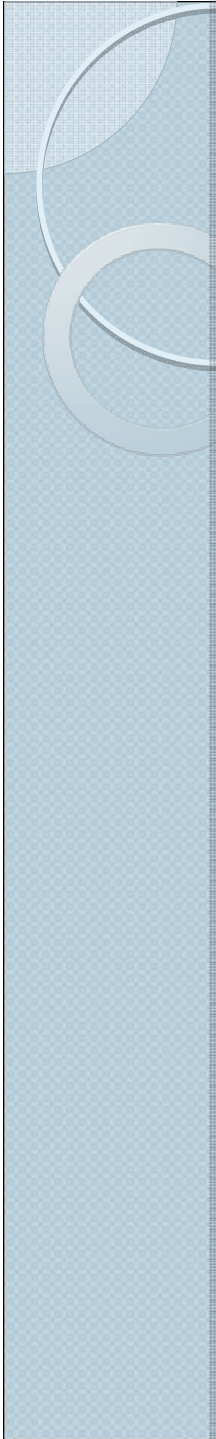
All clients should be assessed to make sure they have had a tetanus vaccination in the past 10 years, **particularly if they inject drugs**

## Wounds prone to tetanus include:

- Non-sterile injections and other puncture wounds.
- Wounds left untreated, unclean or open for over 6 hours.
- Frost-bite
- Burns
- Bullet wounds



# Reducing The Risks of Abscesses and Wounds With Harm Reduction



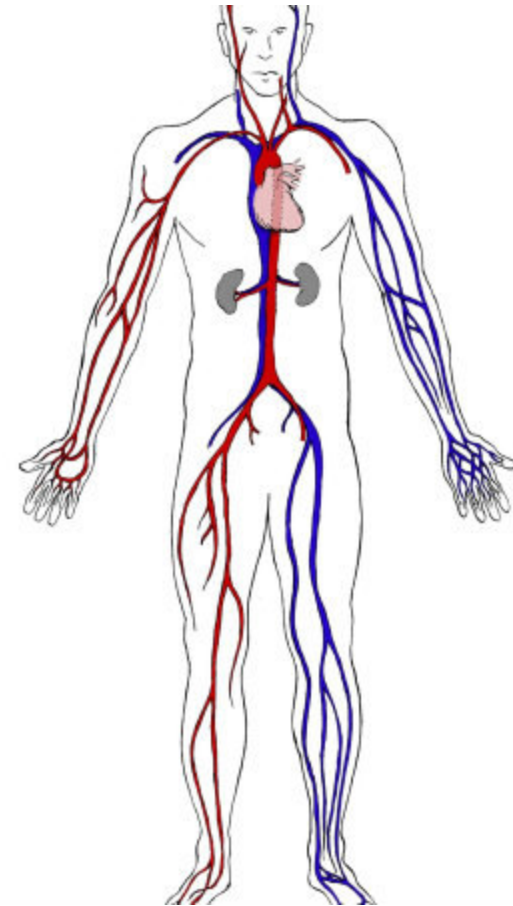
# Veins and Arteries

## Veins

- Carry deoxygenated blood back to the heart
- Collapse when there is no blood flow
- Have valves that prevent backflow
- The blood is dark red

## Arteries

- Carry oxygenated blood away from the heart to body tissues
- Arteries have a pulse as the heart pumps the blood and therefore a lot of pressure
- The blood in arteries is bright red



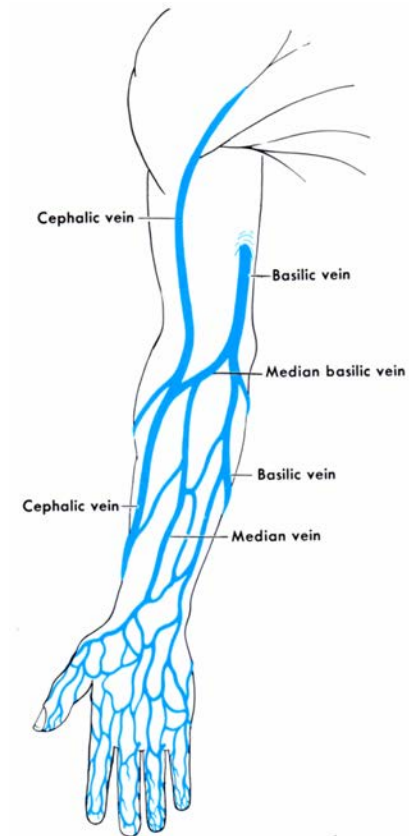
# Safer Injection

- Wounds and abscesses can potentially be avoided by using safer injection techniques that also help to maintain healthy veins.



# Injection Sites - Rotate Them!!

- **Arms:** The safest place for injecting. The superficial veins on the inside of the elbow being the most accessible.
- These sites are less likely to result in damage to surrounding tissue
- Injectors should be educated to do everything they can to preserve arm veins as long as possible and rotate arm veins!





## Hands

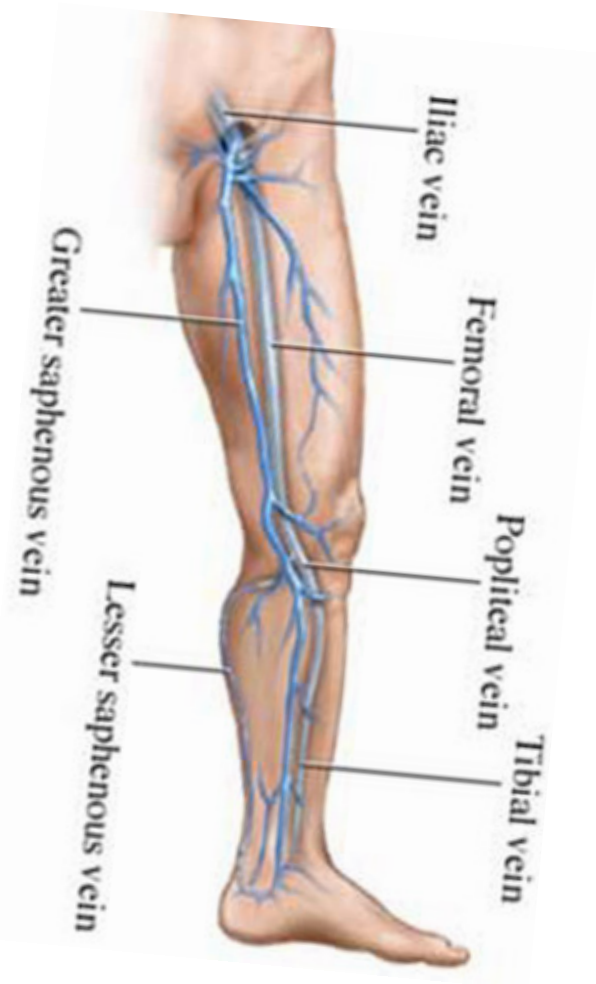
- The veins on the back of the hands can be highly visible.
- They tend to be small and fragile, so they damage and bruise easily.
- If complications such as infection or cellulitis occur, they are likely to be much more disabling in the hand than in the arm.
- Remove all rings before injecting

## Feet

- Veins in the feet are generally small and somewhat fragile.
- Blood circulates more slowly in the foot veins and they therefore require more time for healing and repair.
- Foot sweat and dirty socks can prevent wounds from healing and increase the chance of infection from bacteria.

# Legs

- These veins are far from the heart and due to gravity, blood flow through leg veins is slow and the veins have more valves.
- Injecting at or around valves causes more turbulence and can damage the valves.
- Healing of injection site damage and resistance to infection are less reliable because blood flow is slow.
- Abscesses and other infections are greater risk when injecting into these veins.



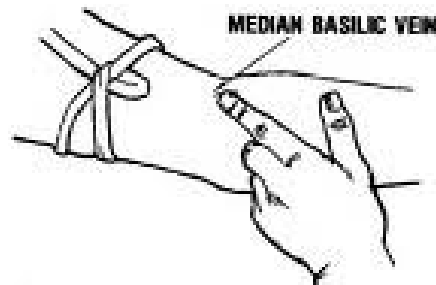


# Sites to Avoid - Dangerous!

- **Femoral** – Risk of hitting femoral artery causing severe bleeding. Hitting the femoral nerve causing intense pain and possible paralysis. Abscess/ulcer at the injection site.
- **Neck**- Risk of hitting carotid artery, severe bleeding. An abscess or cellulitis in the neck can cause dangerous pressure on nerves or obstruct the airway.
- **Breast** – Veins are very small and liable to break. They are also next to milk ducts which can accidentally fill with trapped fluid. This will lead to infection or abscesses.
- **Penis** - Injecting in the penis is dangerous, with problems like local infections being highly likely. Another problem can be priapism – an erection caused by the veins not reopening. This can last a long time and be extremely painful.

# Injecting Safely

- Raise a vein with a tie. A warm environment will also help, as will pumping of the fist and good hydration.
- It is more important to be able to palpate the vein than see it.
- While injecting the needle should point towards the heart (direction of blood flow) at about a 45 degree angle with the bevel (hole) facing up... this decreases blood turbulence, and vein and tissue trauma.
- Once inserted, advise clients to gently draw back to check presence and colour of blood... it should be dark red.
- Apply gentle pressure for 1 minute after injection with a cotton ball to help prevent vein damage.





# Hitting an Artery

- Hitting an artery increases the risk of bleeding, infection and swollen tissue.

## **Signs of Hitting An Artery**

- Frothy red blood that may push the plunger back
- Pain upon injection
- Difficult to stop the bleeding
- If it has a pulse... don't inject there!

## **If you Hit An Artery**

- Do not complete the injection... remove the needle
- Apply pressure for 15-30 minutes, while raising the limb
- Call an ambulance if the bleeding wont stop

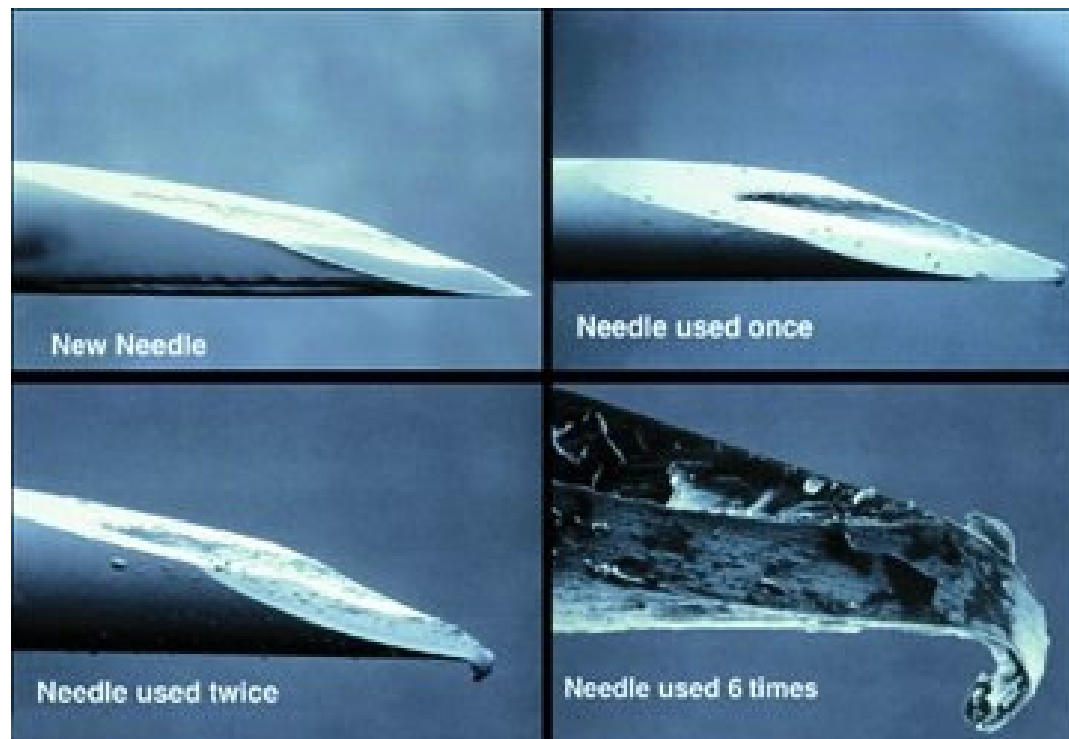
# Skin Cleansing

- Several studies have indicated that proper skin cleansing with **alcohol swabs** prior to injection is the most important step in avoiding infection and abscesses. This may require gentle scrubbing with more than one swab.



# Use A New Needle

Even if clients don't share needles, education on using a fresh needle with every injection to prevent the introduction of bacteria and dirt is needed. Used needles also contain shards and become dull which damages veins quickly. Using other people's needles will also lead to the spread of HIV and Hep C and Hep B.

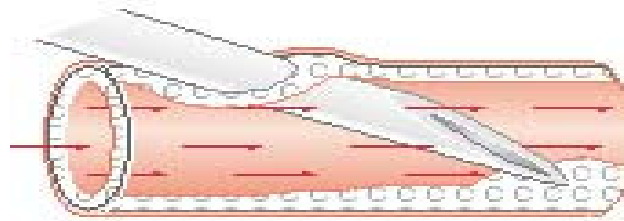


# Selecting a Syringe

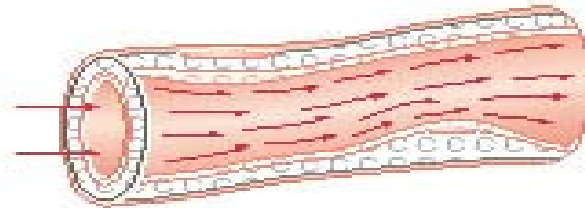
- Select the smallest needle size possible, as this will cause less vein damage. As the gauge of a needle increases, the size of the needle decreases.
- Using non-detachable needles decreases the chance of spreading bacterial and viral infection in the needle is used more than once.



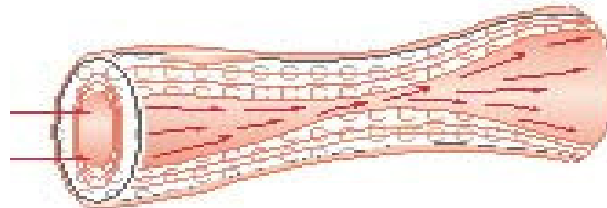
# Collapsing Veins



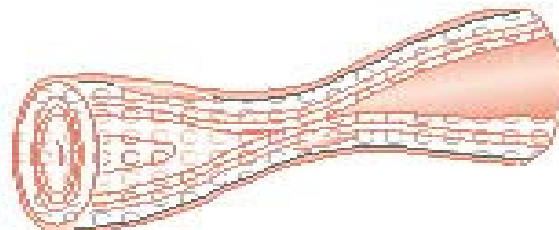
1. Injection damages the inside lining of the vein – repeated injection at the same site increases the likelihood of problems.



2. Clots form in the turbulent blood around the site.

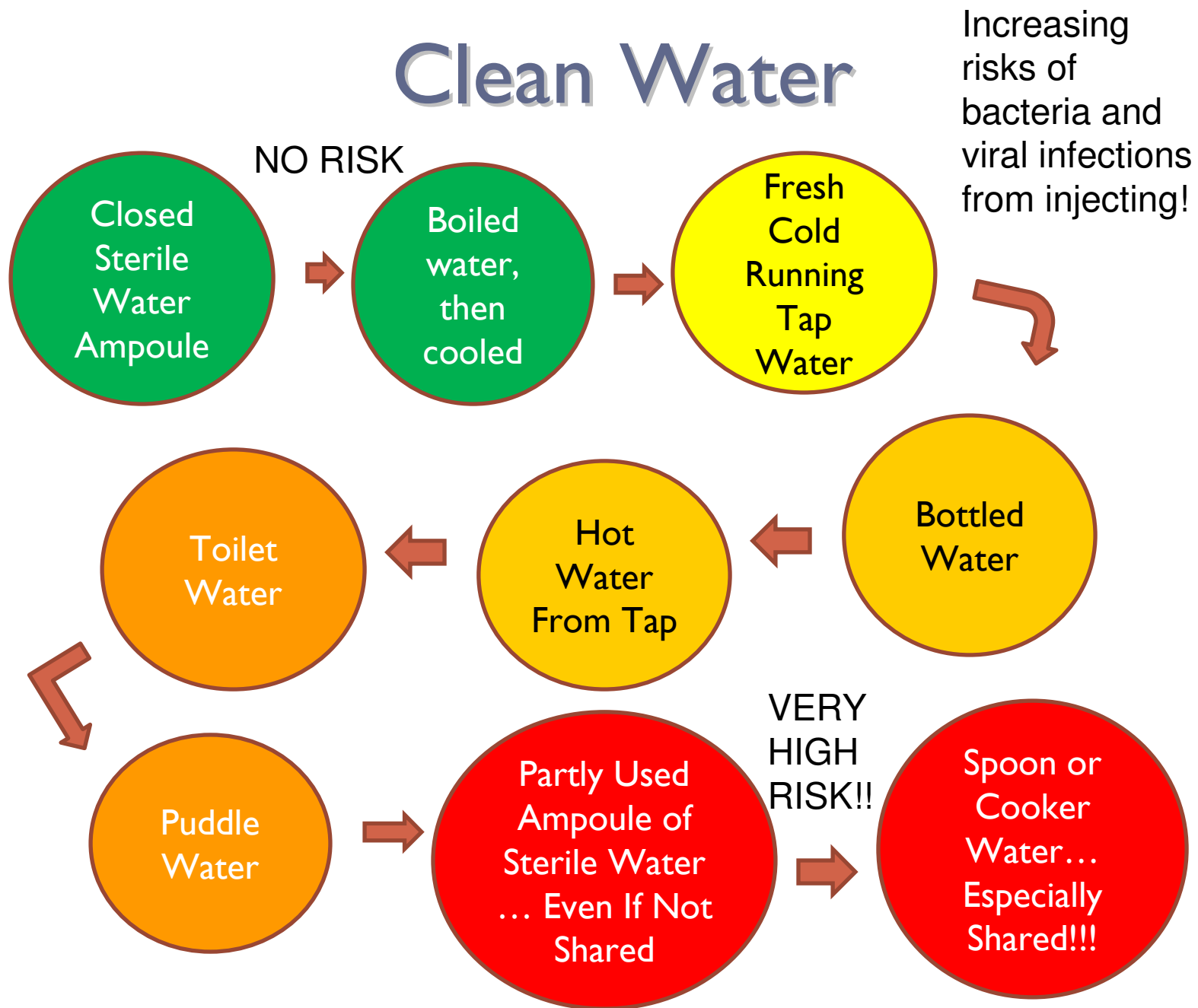


3. As the vein becomes narrower the turbulence increases and clots form more quickly.



4. Finally, the sides of the vein heal together and the vein collapses as the scar tissue draws the sides together.

# Clean Water



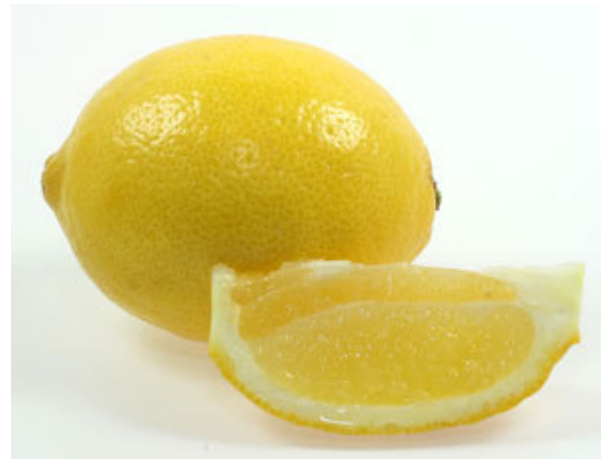
# Acidifiers



Use sterile citric acid, like vitC packages and use each package only once.

If burning or pain is felt at the injection site, try using less acid.

Injecting any amount of acid will damage veins and surrounding tissues. To keep vein damage to a minimum it is important to use as little citric acid as possible.



Using lemons introduces the risk of a fungal or bacterial infection.

# Spoons and Cookers

- In order to decrease risk of viral or bacterial infection, it is best to use a new cooker each time.
- Sharing cookers introduces the risk of spreading viral infection such as HIV, Hep B and Hep C.
- Even if you don't share, using the same cooker more than once increases the chance of a bacterial infection that could lead to an abscess, cellulitis or a blood infection.



# Filters

- New dental cotton filters are recommended over cigarette filters, as they have more stable fibres.
- Small fibres of loose cotton or cigarette filters may break off and be injected into the vein, which can lead to blood clots in the veins.
- Filters should not be reused by the same person, as there is a risk of fungal and bacterial infection.
- Sharing filters introduces the risk of HIV, Hep B and Hep C.



# Ties

In choosing a tie , clients should be advised to use one that releases easily.

It is also helpful not to tie the tourniquet to tight, as this will cut off all blood flow, it will quickly become harder to hit the vein, and veins will collapse and damage more easily.

Ties should be released as soon as the vein is accessed and before injecting... this will reduce pressure on the vein and decrease damage.



Use a tie even if veins are visible. This decreases the chance of a miss.

New ties should be used as small amounts of blood on the ties will increase the risk of infection

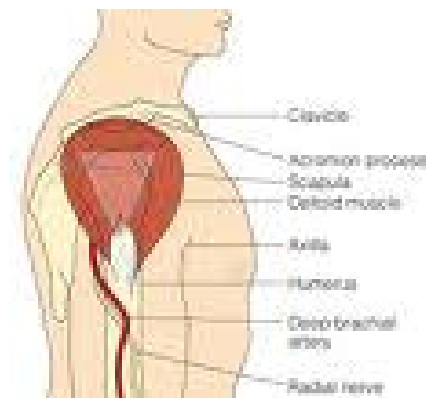
# Injecting Into Muscle

Injecting into muscle increases chances of abscesses and infection. Injecting speed, cocaine, pills and methadone into muscles can cause abscesses.

The needle should be at least one inch in length and 21, 22 or 24 gauges. (Needle length should be short enough not to hit bone and long enough to not break off into muscle.)

Insert the needle with a quick jab. Draw the plunger back. If blood flows into the barrel, a vein or artery has been hit. Pull the needle out a little and try again. Once the syringe is free of blood, it is safe to inject slowly

Safest place to inject is upper arm and thigh muscles. Injecting into the muscles of the butt increases risk of nerve damage.



# Skin Popping

Skin-popping cocaine, speed, pills and methadone will cause abscesses. The drug is absorbed slowly, increasing infection risk.

Keep the skin area relaxed and insert the needle at a shallow angle. Inject only enough drug to make a little bubble in the skin (25 to 50 units on an insulin syringe). Deep insertion of the needle can cause abscesses.

Gently massage the skin to help absorb the drug.

Injecting into the thighs and legs are the safest areas to use.





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