



UNODC

United Nations Office on Drugs and Crime



National AIDS Control Organisation

India's voice against AIDS
Ministry of Health & Family Welfare, Government of India
www.nacoonline.org

5

ABSCCESS PREVENTION AND MANAGEMENT AMONG INJECTING DRUG USERS



STANDARD OPERATING PROCEDURE

Project HIFAZAT: Strengthen the capacity, reach and quality of IDU harm reduction services

Year of Publication: 2012

Published by:

United Nations Office on Drugs and Crime, Regional Office for South Asia

Author: SAHARA Centre for Residential Care and Rehabilitation

All rights reserved.

The text of this publication may be freely quoted or reprinted with proper acknowledgment

Disclaimer

The opinions expressed in this document do not necessarily represent the official policy of the United Nations Office on Drugs and Crime. The designations used do not imply the expression of any opinion whatsoever on the United Nations concerning the legal status of any country, territory or area of its authorities, frontiers and boundaries.

Designed & Printed by

Fountainhead Solutions (Pvt) Ltd.

www.fountainheadsolution.com

Standard Operating Procedure

Abscess Prevention and Management

Among Injecting Drug Users

“Currently 'Injecting Drug Users' (IDUs) are referred to as 'People Who Inject Drugs' (PWID). However, the term 'Injecting Drug Users' (IDUs), has been used in this document to maintain consistency with the term used presently in the National AIDS Control Program”

Supported by The Global Fund to Fight AIDS, Tuberculosis and Malaria - Round-9 India HIV-IDU Grant
No. IDA-910-G21-H with Emmanuel Hospital Association as Principal Recipient



Preface

In India, Targeted Intervention (TI), under the National AIDS Control Program (NACP) framework, is one of the core strategies for HIV prevention amongst injecting drug users (IDUs). Apart from providing primary health services that include health education, abscess management, treatment referrals, etc., the TIs are also designated centres for providing harm reduction services such as Needle Syringe Exchange Program (NSEP) and Opioid Substitution Therapy (OST). The services under the TIs are executed through a peer based outreach as well as a static premise based approach, i.e., through Drop-In Centres (DIC) which in turn serves as the nodal hub for all the above activities to be executed.

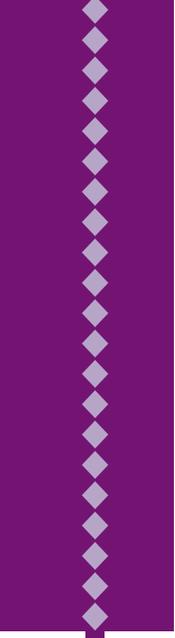
To further strengthen these established mechanisms under the NACP and to further expand the reach to vulnerable IDUs, United Nations Office on Drugs and Crime (UNODC) in India provides technical assistance to the National AIDS Control Organisation (NACO) through the Global Fund Round 9 Project (i.e., Project Hifazat), amongst others. In doing so, UNODC supports NACO through technical assistance for undertaking the following:

- 1) Conduct Operational Research
- 2) Develop Quality Assurance SOPs
- 3) Develop Capacity Building/ Training Materials
- 4) Training of Master Trainers

It is in this context that a series of seven Standard Operating Procedures (SOPs) including the present one on Abscess Prevention and Management has been developed. This SOP also feeds into the broader NACP goals and helps strengthen and consolidate the gains of the TIs towards scaling up of critical services.

This SOP on Abscess Prevention and Management is the fifth in a series of seven SOPs developed. The SOP is a handholding tool for those involved in abscess prevention and management at the IDU TI level and is intended to be a guide on the care and treatment of abscesses among injecting drug users.

This SOP therefore, has also been developed with a vision to serve as an invaluable tool for the service providers engaged in IDU TIs in India and to enable them to deliver quality services. Contributions from the Technical Working Group of Project Hifazat which included representatives from NACO, Project Management Unit (PMU) of Project HIFAZAT, SHARAN, Indian Harm Reduction Network and Emmanuel Hospital Association was critical towards articulating and consolidating inputs that went into finalizing this SOP.



Acknowledgement

The UN Office on Drugs and Crime, Regional Office for South Asia (UNODC ROSA) in partnership with national government counterparts from the drugs and HIV sectors and with leading non-governmental organizations in the countries of South Asia is implementing a project titled “Prevention of transmission of HIV among drug users in SAARC countries” (RAS/H13).

As part of this regional initiative UNODC is also engaged in the implementation of the Global Fund Round-9 IDU-HIV Project (i.e. HIFAZAT). Project HIFAZAT aims to strengthen the capacities, reach and quality of harm reduction among IDUs in India. It involves providing support for scaling up of services for IDUs through the National AIDS Control Program.

We would like to acknowledge the invaluable feedback and support received from various stakeholders including NACO, Project Management Unit (PMU) of Project HIFAZAT, Emmanuel Hospital Association (the principal recipient of the grant 'Global Fund to Fight AIDS, Tuberculosis and Malaria-India HIV-IDU Grant No. IDA-910-G21-H'), SHARAN, Indian Harm Reduction Network and individual experts who have contributed significantly in the development of this document.

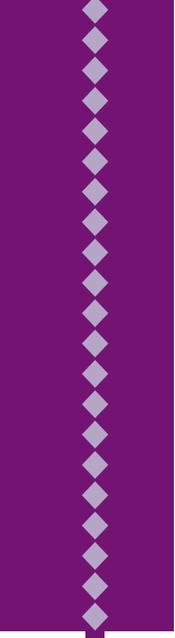
Special thanks are due to the UNODC Project H13 team for their persistent and meticulous efforts in conceptualizing and consolidating this document.

Abbreviations

AIDS	Acquired Immunodeficiency Syndrome	MSM	Men having Sex with Men
ART	Antiretroviral Therapy	NACO	National AIDS Control Organisation
BBV	Blood-Borne Virus	NGO	Non-Governmental Organization
CBO	Community-Based Organization	OI	Opportunistic Infection
DIC	Drop-In Centre	OST	Opioid Substitution Therapy
DOTS	Directly Observed Therapy, Short-Course	ORS	Oral Rehydration Solution
DU	Drug User	ORW	Outreach Worker
FSW	Female Sex Worker	OTC	Over The Counter
H2O2	Hydrogen Peroxide	PE	Peer Educator
HIV	Human Immunodeficiency Virus	PM	Project Manager
HRG	High Risk Groups	PLWA	People Living with AIDS
ICU	Intensive Care Unit	SOP	Standard Operating Procedure
I&D	Incision and Drainage	SP	Spasmoproxyvon®
IDU	Injecting Drug User	STI	Sexually Transmitted Infection
IEC	Information, Education and Communication	TB	Tuberculosis
IV	Intravenous	TI	Targeted Intervention
		TT	Tetanus Toxoid

Contents

1.	Introduction	1
1.1	Background and Purpose	1
2.	Abscess Basics	3
2.1	Why do Abscesses Occur in IDUs?	3
2.2	How to Recognize an Abscess	7
3.	Preventing Abscesses	9
3.1	Educating Clients on the Proper and Safe Technique of Injecting	9
3.2	Educating Clients on the Difference between Vein and Artery	10
3.3	Educating Clients on Recognizing Safe and Unsafe Injecting Sites	11
4.	Management of Abscess	13
4.1	Management of Abscess at Every Stage	13
4.2	Incision and Drainage (I&D)	14
4.3	Medication	16
4.4	Dealing with Abscess related Complications	16
4.5	Vaccination	17
5.	Abscess Prevention and Management – Operational Issues	18
5.1	Infrastructure	18
5.2	Equipment	18
5.3	Medicines and Consumables	18
5.4	TI Staff – Roles and Responsibilities	19
5.5	Guidelines for Day-to-Day Operations	20
6.	Summary	22
7.	References	23



1. Introduction

1.1 Background and Purpose

In India, as in many parts of the world, Injecting Drug Users (IDUs) have emerged as a high risk group for HIV infection and other blood-borne viruses. HIV prevalence is very high among IDUs in India, as reported in the recent sentinel surveillance exercises carried out by the National AIDS Control Organisation (NACO)¹. It is estimated that there are around 200,000 IDUs in the country; however, the prevalence of injecting drug use differs from one region to another. Additionally, HIV prevalence among IDUs also varies. In some sites, HIV prevalence among IDUs is more than 15%.

ulcers, abscesses, cellulitis and thrombophlebitis, which are very common among IDUs. Many are undernourished and a substantial number have experienced drug overdose². Apart from poor health conditions, IDUs lack access to health services. Even if services are available, IDUs do not seek these services due to stigma and discrimination.

IDUs often get abscesses on their arms or legs – mostly (but not always) at injection sites. They are more likely to damage tissue and develop an abscess when the 'skin pop' or miss their vein. Ignoring these abscesses can lead to life threatening complications such as sepsis, amputations and



Picture of an IDU hotspot

Studies show that drug users suffer from a variety of other physical, psychological and social problems. Their health condition is generally poor – e.g., anaemia, poor nutrition and weight loss are quite common among all drug users. Excessive use of drugs severely weakens the immune system making the user prone to various physical diseases. In addition, other factors also lead to diseases such as

even death. Abscesses are preventable, treatable and manageable with proper training of healthcare workers on the techniques of abscess management.

Management of abscesses requires timely identification, treatment and reporting of complications. The majority of abscesses can be treated at the TI level itself. Treatment of abscesses provides an opportunity to engage users in

¹NACO Annual report, 2010.

²Kumar et al. 2005

discussions about harm reduction, drug treatment and prevention of blood-borne infections such as HIV/AIDS and hepatitis. TI staff at all levels must be

well trained to co-ordinate, identify an abscess, refer and convey prevention messages.

Purpose of the Standard Operating Procedure

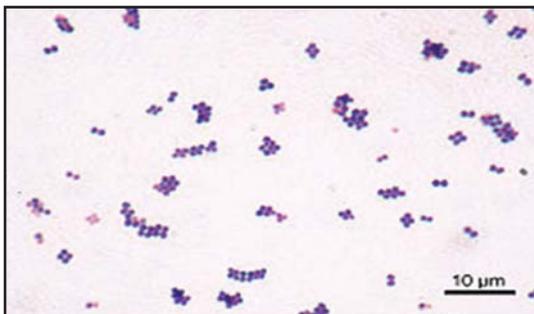
The purpose of this standard operating procedure is to provide a set of standardized guidelines to harm reduction service providers on abscess prevention and management. This SOP is a hand-holding tool for those involved in abscess management at the nationwide TI level. It is intended to be a guide on the care and treatment of abscesses among injecting drug users.

This SOP is for use by all the staff of a TI, including those involved in providing care and support in outreach settings for IDUs.

2. Abscess – Basics

Abscess is a localized collection of pus and infected material in a body part. Whenever any germs or other materials enter the body, the body recognizes them as ‘foreign bodies’. As a reaction, the body deploys the white blood cells and other cells in its attempt to get the foreign body out. This results in collection of pus (which is generally made up of dead tissues, germs and white cells) in and around the foreign body, leading to formation of abscesses. Abscesses often take between two and five days to develop but sometimes can develop instantaneously. The affected part may be hot, red, swollen, tender and fluctuant (indicating pus formation).

Abscesses can occur in any part of the body. However, a majority of the IDUs have abscesses on the skin due to unsafe injecting practices. These are called cutaneous abscesses. This SOP addresses issues and management of cutaneous abscesses. Cutaneous abscesses are usually caused by common skin bacterium (*Staphylococcus Aureus*).



Microscopic view of Staphylococcus Aureus

Abscesses can be of two types:

1. Exploding: where infection breaks out onto the outer skin surface.
2. Impounding: where the pus formation takes place under the skin and infection keeps spreading under the skin, without breaking out onto the skin surface.

2.1 Why Abscesses Occur in IDUs?

Abscesses are caused by germs, such as bacteria and foreign substances entering the body through needles piercing the skin and contaminating the injection site. An area of tissue becomes infected and initially looks like a hard boil. If ignored, white blood cells move into the infected area and collect within the damaged tissue and pus forms. If further ignored, the infected area could increase and break/breach the skin leading to formation of an ulcer. If overlooked, the site could become infested with maggots after which gangrene could set in. This could result in amputation of the limb or infected part.

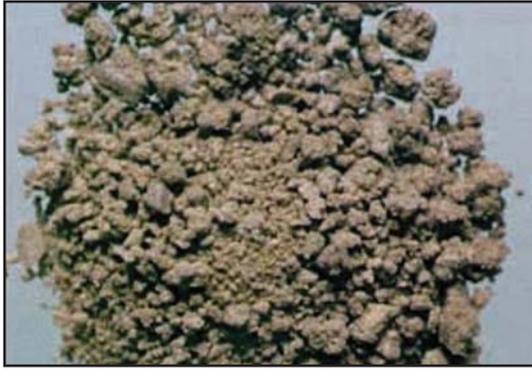
In IDUs, abscesses occur because of a number of factors – from the drugs being injected to the unsafe injecting practices followed by the IDU. Finally, the physical status of the IDU may play a role in the formation of abscesses.

a. Drug Related Factors

In India, the drugs used by IDUs differ from one region to another. It is observed that in the Northeastern states, IDUs inject heroin (pure form) and at times when heroin is not available, they resort to injecting Dextropropoxyphene capsules.



White heroin powder



Brown powdered heroin

In other parts of India, brown sugar (impure form of heroin) mixed with water or a cocktail of various pharmaceutical drugs is injected. This cocktail contains buprenorphine either alone (which is an uncommon practice) or often mixed with benzodiazepines (e.g. Diazepam), pheniramine maleate (Avil)³ or promethazine (Phenargan)⁴. In some other places, pentazocine (Fortwin) alone or in combination with other sedatives/hypnotics is injected. It may be noticed that many of these drugs such as heroin, brown sugar or dextropropoxyphene capsules are not prepared in injectable form. Injections are prepared in much more sterile conditions as compared to tablets/capsules. At the street level, these drugs are often mixed with adulterants, which can cause further irritation to the skin when injected. The capsules/tablets contain a number of inactive ingredients (such as starch, lactose, magnesium stearate) along with the active chemical, which are required to bind and dissolve the tablet/capsule. These adulterants/inactive ingredients can enter the vein during injecting and can cause abscesses.

Brown Sugar: an impure form of heroin, is available in powder form. It is often mixed with a number of adulterants, which may include chalk powder, strychnine, zinc oxide, sugar, powdered milk, caffeine, glucose, etc. During injection, the brown sugar is cooked for a few minutes with either water,

Avil or Diazepam. This mixture is then pulled into a syringe through a filter (using a piece of cotton or cigarette butt) and injected. Brown sugar sold illicitly on the streets is mixed with adulterants and these may not get entirely dissolved. Minute particles of the adulterants may get through the filter and are injected along with the brown sugar mixture. These particles act as irritants in the body, causing blockages in the vein and abscesses to occur.

Buprenorphine: is available as injections as well as sublingual tablets. Sublingual buprenorphine tablets are crushed to a powder, dissolved in water and the mixture is then injected. As buprenorphine tablets do not completely dissolve in water, minute particles are pulled into the syringe along with the mixture and injected, which can cause blockages in the vein and abscesses.

Dextropropoxyphene: commonly sold as Spasmaproxyvon, is available as capsules. Often, these capsules are injected by dissolving the contents of the capsule in water, which is then boiled and the mixture is injected. The contents of the capsule do not completely dissolve in water, minute particles are pulled into the syringe and injected, which act as irritants. These irritants induce an inflammatory response and result in an abscess.

Prescription drugs: injection of pharmaceutical preparations also poses a risk for development of abscesses. A street cocktail is usually made using injection buprenorphine or pentazocine (Fortwin) mixed with either a benzodiazepine (e.g. Diazepam), pheniramine maleate (Avil) or promethazine (Phenargan). Pentazocine is notorious for causing abscess when used through the injection route. It can cause cutaneous changes such as erythema, deep or superficial ulcers at or near the injection sites, pigmented halos around the ulcers, bruising,

³Mentioning the brand names of drugs is in no way prejudice against a particular manufacturer

⁴Ambekar et al. 2008

woody induration, oedema of the legs and cellulitis. Patients may also develop fibrous myopathy and limb contractures upon repeated use of pentazocine injections. Repeated use of these chemicals leads to irritation to the veins. An IDU may use these combinations two to four times a day, which results in irritation to the veins resulting in abscess formation.

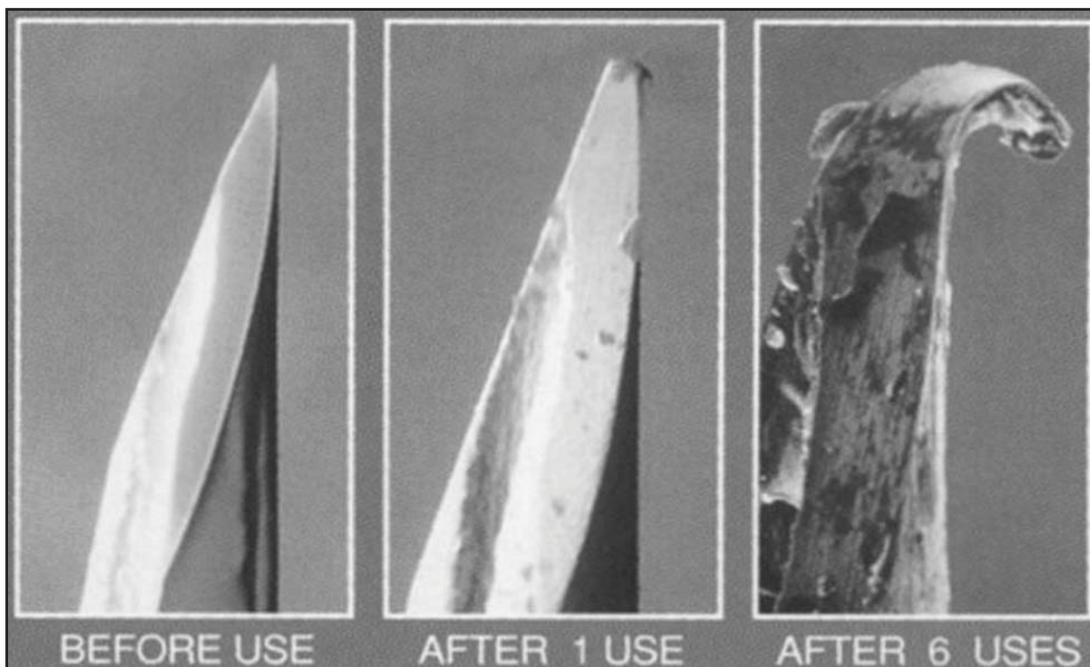
b. Unsafe Injecting Practices

IDUs indulge in a number of unsafe injecting practices, making themselves vulnerable to the development of abscesses.

- IDUs inject at places which are not frequented by the general community. These may include railway tracks, abandoned buildings, cremation grounds, by the side of an open drain/sewer. These unhygienic places can pose a definitive risk for infection and abscesses.
- IDUs may lack adequate knowledge on how to inject safely. Also, IDUs do not get

enough time to practice safe injection and hence IDUs invariably inject in a hurry. This may be due to withdrawal, fear of police or fear of getting caught in the act of injecting. As a result, they may not clean the site properly before injecting, inject in unsafe veins, spill the drug out of the vein during injecting or may inject in arteries. These improper techniques of injection can result in abscess formation.

- Sharing needles and syringes and using non-sterile injecting paraphernalia can lead to formation of abscesses, apart from contracting blood-borne diseases like HIV, hepatitis B and hepatitis C.
- The IDU may repeatedly use the needles/ syringes used by him/her earlier. Reusing the same needle over and over again results in blunting the tip of the needle. The blunting of the tip results in damage to the vein into which it is injected and can lead to the formation of the abscess.



- IDUs may use unclean water for rinsing the needle/syringe after using it or before the next injecting episode. In such cases, the injecting equipment would be infected with infection causing organisms and would increase the chances of abscess formation.
- Injecting repeatedly and at the same sites results in abscess formation.
- Skin Popping: this is a practice of experienced IDUs, who do not have accessible/patent veins for injecting. They resort to injecting drugs into the fatty layer under the skin (subcutaneous area). This is known as 'skin popping'. In skin popping, the injected material is not immediately absorbed from the subcutaneous area, as a result of which it causes greater damage to the tissue and results in abscess formation.⁵



Photograph of various 'skin pops' in an individual who is an IDU.

c. Individual Factors

An IDU may delay seeking treatment and help for abscesses due to less physical pain experienced (due to injection of opioids, which are pain killers) and stigma related factors. The immune status of the IDU may be compromised due to poor nutrition and concomitant infection with HIV. This may make the IDU more prone to development of abscesses.

Risk factors for Abscess Formation

- ⊙ Injecting tablets/capsules.
- ⊙ Using non-sterile injecting equipment.
- ⊙ Injecting in a hurry.
- ⊙ Not cleaning the skin adequately before injecting.
- ⊙ Injecting frequently.
- ⊙ Injecting repeatedly at the same sites.
- ⊙ Resorting to skin popping.
- ⊙ "Booting" (repeatedly flushing and pulling back during injection).
- ⊙ Being HIV-positive.
- ⊙ Having poor nutritional status.

⁵A photograph of various 'skin pops' in an individual who is an IDU. skin_popping_1_060329, DermAtlas. Accessed from <http://dermatlas.med.jhmi.edu/derm/indexDisplay.cfm?=-ImageID=1143691595>

2.2 How to Recognize an Abscess

An abscess is characterized by raised skin surface, localized heat, tenderness and pain, redness of skin and pus formation; there would be a foul smell if it has begun to discharge. The symptoms of abscess will vary depending on where the abscess is located. However, generally, the following symptoms and signs would be seen in an IDU who has an abscess:

Stage 3: Ulcer

If proper treatment is not provided, the abscess may become an ulcer. Ulcer is an open wound, which may/may not discharge pus. With proper care and treatment, the ulcer may heal by formation of a 'scar' on the affected area.

Stage 4: Gangrene and Other Complications

- If the ulcer is not cared for properly, it may progress to a 'non-healing' ulcer – an ulcer

Signs and Symptoms

- Localized swelling.
- Affected area is warm to touch.
- Pain in the affected area.
- Skin looking shiny and/or stretched.
- Pus formation, foul smell (if pus is being discharged).
- Fever may or may not be present.
- If not treated, abscess leads to ulcer.
- If not treated, the ulcer may progress to a 'non-healing' ulcer.
- The infection can spread to deeper areas, causing generalized infection.
- Untreated abscess may cut off the blood supply, leading to gangrene.

The abscess may be divided into the following stages:

Stage 1: Hard Boil

In the beginning, a painful lump appears. This lump is red warm and painful to touch.

Stage 2: Pus Discharge

As the abscess progresses, a "point" is seen. This point is called a head. The 'head' may rupture by itself leading to spontaneous draining of pus.



Photograph of a discharging ulcer

which does not heal by itself and may chronically be present. Maggots may infest the ulcer.

- The infection can spread to the bone, leading to osteomyelitis (infection of the bone). Osteomyelitis is manifested as bone pain, fever, nausea and swelling of the extremities. This is a dangerous condition and may lead to amputation or permanent difficulty in movement of limbs.
- The infection can spread to the bloodstream. This is called septicemia and symptoms such as fever, nausea, vomiting, increasing pain and increasing skin redness may develop. This may also lead to failure of multiple organs of the body and the individual may become comatose or develop alterations of consciousness.
- The abscess may increase pressure within the tissue and cut off the blood supply to the area due to blockage of an artery. This leads to the formation of gangrene. Gangrene is an area which is dead due to lack of blood supply.
- Gangrene is characterized by darkening of the affected tissue, pungent odour and loss of sensation. This is a serious condition that requires prompt surgical care. Untreated, the gangrene may spread and may require amputation of the entire limb.



Photograph of Gangrene

- The bacteria may travel from the abscess site to the heart through veins and infect the valves of the heart, leading to a condition called 'endocarditis'. Endocarditis may present with symptoms such as high grade fever, chills, aching joints and muscles, fatigue and abnormal heart sounds.
- Tetanus of the wound may develop as a complication, due to a toxin released by the bacteria *Clostridium Tetani*.

Abscess is a common problem among people who inject drugs although serious complications of abscess are rare. However, when complications do occur, the outcomes can be severe and include the possibility of prolonged hospitalization, amputation and death. In the DIC setting, it is important for service providers to recognize the signs of these complications so that referral to a hospital for evaluation and treatment can be initiated in a timely manner.

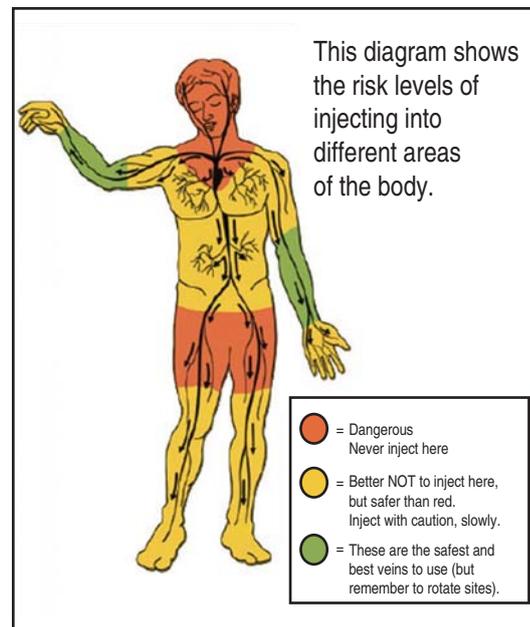
3. Preventing Abscesses

An important preventive measure is to educate clients about safe injecting methods, proper injecting techniques and care in selection of injecting sites. For example, washing hands and cleaning the injection site with soap and water or an alcohol swab is an important practice to prevent abscesses.

Education About Safe And Sterile Injection Techniques Can Help Reduce Occurrence Of Abscesses

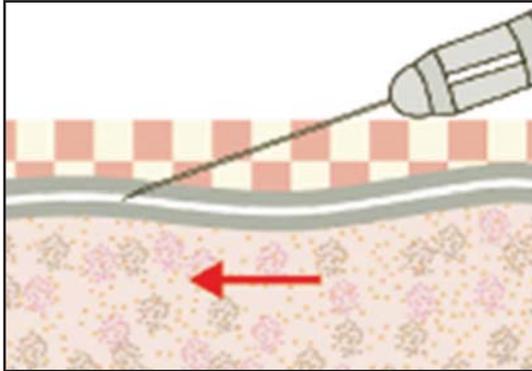
3.1 Educate Clients on the Proper and Safe Technique of Injecting

- Injecting through the intravenous route is preferable to the subcutaneous route (as subcutaneous route results in slow absorption of the drug and increases the possibility of more tissue injury and local infection).
- Before injecting, the site should be cleaned with an alcohol swab (the best way to clean is with plenty of water and soap; however, this may not be practical in majority of cases). Educate the clients on how to use alcohol swabs and why they are useful:
 - Alcohol wipes help to remove dirt and germs from the skin.
 - It makes an "antiseptic field" on the arm.
 - It stimulates the skin surface and makes it shine. (Hard-to-find veins are easier to see and hit.)
- For injecting, the best site is in front of the elbow (cubital fossa). There are some dangerous injecting sites that should be avoided like groin veins (femoral veins), veins in the neck, veins of the hand and legs, breast veins and veins of the penis.
- Inject with the vein clearly visible (make the vein prominent with a tourniquet or with other hand). Use a tourniquet which is easy to release; do not tie it very tightly, as a tight tourniquet may stop the blood supply from arteries and can cut-off the circulation to the limb. Once the needle has entered the vein, release the tourniquet to allow for drugs to enter the vein.



- Use the smallest bore needle possible. This will prevent damage to the veins.
- Use clean equipment (needles/syringes and other injecting paraphernalia).

- Inject at the 45 degree angle to the vein. The sharpest point of the needle should pierce the skin first with the hole facing upwards. Needle should not be pointed at 90 degree angle to the skin surface, as there is a greater risk of puncturing the vein.

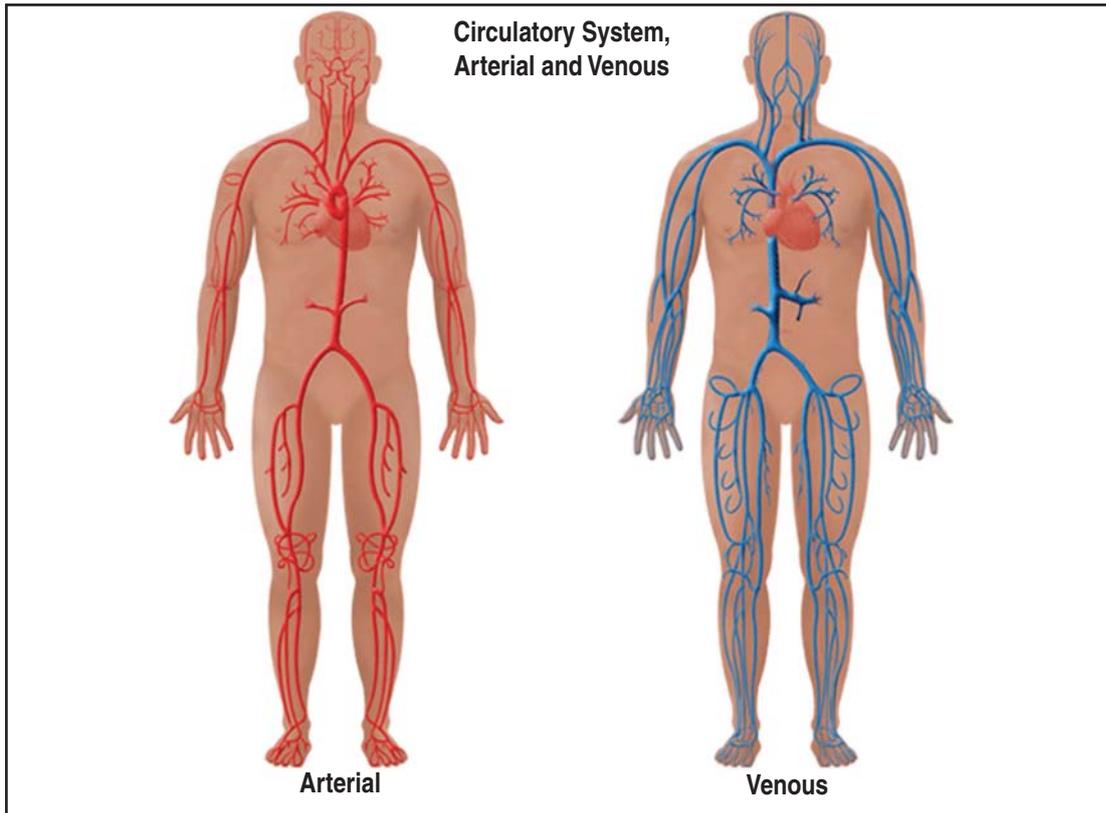


Photograph depicting angle of insertion of needle into the vein

- Once the vein has been hit, stop further puncture and draw some blood in to the syringe to confirm that the vein has been hit.
- Administer the drug slowly; administering the drug in a fast manner can cause more damage to the vein.
- Do not repeatedly push down the blood and draw it back (called 'flushing' in street parlance). Some injectors draw more than 1-2 ml of blood to mix and then inject it. This is a very dangerous method, as it may lead to clotting outside the vein and lead to a blood clot entering the body and lodging in any vital organ of the body.
- After injecting, the needle should be removed slowly from the vein. Following this, pressure should be applied on the injected site with a dry cotton swab for at least one minute to stop the blood from oozing out. Do not use alcohol swabs to stop the blood.
- Used needles and syringes should be disposed-of safely. Do not throw away used needles/syringes in the open, as these are liable to be used by others.
- Allow time for the injected vein to heal. Use alternate sites for the next injection. IDUs should rotate the injecting sites; otherwise there is a greater risk of abscess formation.

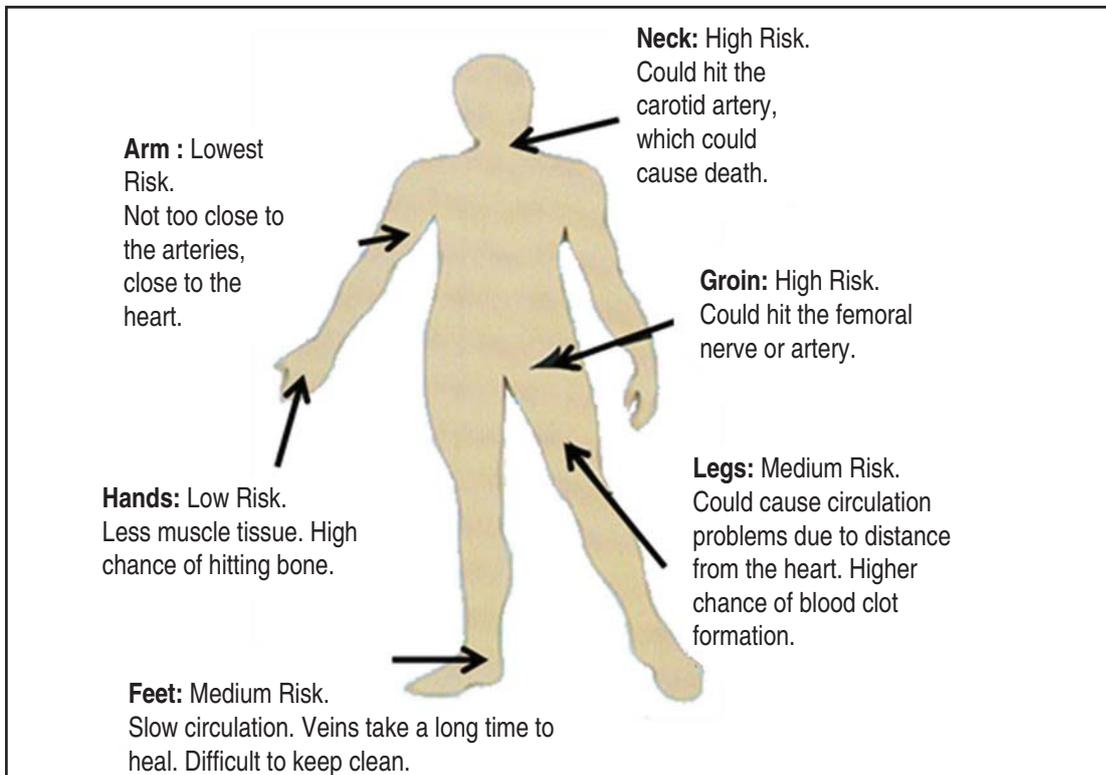
3.2 Educate Clients on the Differences between Vein and Artery

Artery	Vein
<ul style="list-style-type: none"> • Arteries carry blood from heart to limbs. 	<ul style="list-style-type: none"> • Veins carry blood from limbs to heart.
<ul style="list-style-type: none"> • Arteries have pulse. 	<ul style="list-style-type: none"> • Veins do not have pulse.
<ul style="list-style-type: none"> • Arteries are filled with bright red blood. 	<ul style="list-style-type: none"> • Veins are filled with dark red blood.
<ul style="list-style-type: none"> • If drugs are injected into the artery they cause excruciating pain and severe bleeding. 	<ul style="list-style-type: none"> • Injecting into veins does not produce excruciating pain.



3.3 Educate Clients on Recognizing Safe and Unsafe Injecting Sites

Clients should be educated on which veins are safe for injecting and which veins can lead to greater damage, if injected into.



Preventive Strategies

- ⦿ Always use new injecting equipment – needles, syringes, spoons, swabs, cookers, water and filters.
- ⦿ Before injecting wash hands with soap and water and clean the injecting site with an alcohol swab.
- ⦿ Reduce the frequency of injections.
- ⦿ Rotate injection sites and always inject in the direction of blood flow, i.e. from the vein to the heart.
- ⦿ IDUs who report cleaning their skin before injecting have a lower rate of abscesses.
- ⦿ Ensure early diagnosis and treatment of abscess.
- ⦿ Do not mix drugs (for example, cocktails of diazepam, pheniramine maleate with buprenorphine injection).
- ⦿ Do not inject tablets or capsules, as far as possible.
- ⦿ Do not share vials when mixing cocktails.
- ⦿ Avoid frequent injecting and “booting” (repeatedly flushing and pulling back during injecting).

4. Management of Abscess

4.1 Management of Abscess at Every Stage

Abscesses will develop progressively if not treated and managed as soon as infection is manifested and may eventually result in amputation or death. Management of abscesses includes incision, drainage and antibiotics active against the abscess-causing bacteria. Management of abscesses involves deciding on the following:

- Which wounds need conservative treatment such as antibiotics?
- Which wounds need antibiotics followed by incision and drainage?
- Which wounds need incision and drainage?
- Which wounds need referral to a hospital?

The DIC doctor should decide the management strategy for a given abscess. The table below provides broad management strategies to be followed at a particular stage of the abscess.

Stages	Signs/Symptoms	Management
Hard Boil	<ul style="list-style-type: none"> • A small red, hard and painful lump 	<ul style="list-style-type: none"> • Pain killers may be given. • Warm compresses to ripen the abscess. • Dressing in some cases (to prevent abscess from bumping off). • Ensure abscess site is kept clean.
Pus Discharge	<ul style="list-style-type: none"> • Appearance of a 'head' • Discharge of pus 	<ul style="list-style-type: none"> • Administration of antibiotics. • Incision and drainage, when abscess becomes Pointing (head appears). • Administration of pain killers. • Cleaning and dressing.
Ulcer	<ul style="list-style-type: none"> • Ulceration • Maggot infestation (in some cases) 	<ul style="list-style-type: none"> • Local/systemic antibiotics. • Cleaning of the wound. • Follow-up – decide whether referral to hospital required.
Gangrene	<ul style="list-style-type: none"> • Loss of sensation and movement 	<ul style="list-style-type: none"> • Client should be referred to the hospital.



IDU receiving services at the DIC

4.2 Incision and Drainage (I&D)

Abscesses resolve by drainage. Smaller abscesses may resolve by conservative measures, while large abscesses will require incision to drain the pus out of the abscess.

Indications for I&D

- Abscess in the skin which is palpable and which is pointed (has a 'head').

Contra-indications for I&D

- Hard lump - as conducting I & D in a hard lump may lead to spread of infection to other tissues.
- Large abscesses which require extensive incision, debridement or irrigation.
- Deep abscesses.
- I&D should not be attempted in a primary health care setting such as the DIC of the TI, in case of abscesses which are closely situated near big arteries.

Materials for I&D

- Universal precaution materials (gloves, disposable syringes).
- 1% or 2% lidocaine for local anaesthesia.
- Betadine solution.
- Scalpel blade with handle.
- Draping.
- Gauze.
- Haemostat and scissors.
- Tape.

Pre-Procedure Steps

- Take informed consent.
- Inform the client of complications arising out of I&D.
- Explain the steps of the procedure.
- Explain necessity for follow-up, including packing change or removal.

Procedure

- Clean and drape the area (a cloth arranged over a patient's body during an examination or treatment or during surgery, designed to provide a sterile field around the area).
 - Wash the area with normal saline 0.9%.
 - Clean it with betadine solution.
- Inject lignocaine 2% or spray 10% lignocaine at the site for local anaesthesia. Sometimes, general anaesthesia may be needed depending on the site and the size of abscess.
- Incise the abscess at the most fluctuating point and at the more dependent area. Make an incision and then open the abscess pocket with the help of artery forceps. If the abscess is large, put your little finger inside and break the inner pus pockets (loculi).
- Use H₂O₂ (hydrogen peroxide) to irrigate; wash with normal saline.
- Place a piece of roller gauze soaked in betadine solution or Soframycin ointment in the pocket.
- Dress with micro pore tape or cotton bandage.
- Prescribe antibiotics and pain killer medications.
- In case the client is HIV positive and is on ART, ensure that he takes his ART drugs regularly. As immune system is very weak in HIV positive patients, progression of abscess can be very rapid.
- Change the dressing every day till the pus oozes out and when it starts healing, dressing can be done every alternate day.
- Advise the client to keep the affected area elevated as it helps to reduce the inflammation.

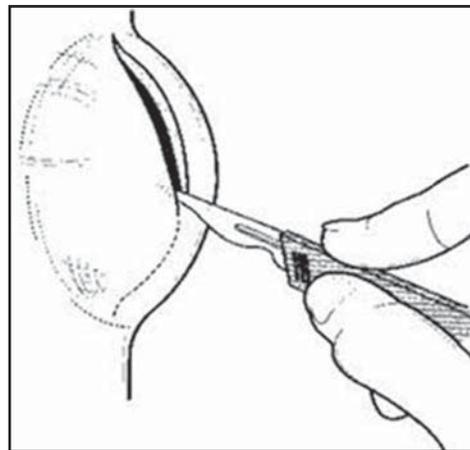


Image depicting incision and drainage of abscess

Management of Complications During I&D

Complications	Management
<ul style="list-style-type: none"> • Insufficient anaesthesia 	Use sufficient quantity of anesthetic; allow time for anesthetic effect.
<ul style="list-style-type: none"> • No drainage 	Extend incision deeper or wider as needed.

4.3 Medications

Treatment of abscesses requires the following:

a. Pain Management

- **Oral medications:** NSAIDs (Brufen/ paracetamol/ nimuselide), Non-NSAID (Tramadol).
- **Parental analgesics:** Injection Diclofenac / Injection Tramadol.

b. Antibiotics

- **Local antibiotics:** Soframycin/Neosporin ointment.
- **Systemic antibiotics:**
 - Orally: Erthromycin 500 mg twice daily for five days/Cefixime 200 mg twice daily for seven to ten days.
 - Injectable: Injection cefotaxime 1 gm twice daily for seven days.

c. Dressing

- Wash hands with soap and water. Dry them and put on gloves.
- Wash the wound with normal saline to clean debris/any foreign material/pus oozing out.
- Scrub the wound with gauze dipped in the Betadine solution.
- Apply medicated cream (Povidine ointment). Spread the cream carefully over the wound, avoiding the surrounding area.
- Put a piece of sterile gauze over the wound.
- Apply micropore tape or cotton bandage.

4.4 Dealing with Abscess - related Complications

Not providing adequate treatment and care for abscess leads to a number of complications. These

include infestation of the wound with maggots, development of gangrene and other potentially life threatening complications such as endocarditis (infection of the valves of the heart), septicaemia (infection spreading to the bloodstream and affecting multiple organs of the body), etc. Development of any of the above mentioned complications should prompt the TI staff to refer the client to a nearby hospital for better management of the wound as these complications cannot be managed at the TI site alone. Appearance of symptoms such as fever, increasing pain, increasing area of abscess, client becoming non-responsive, etc. are pointers towards development of complications.

While it is ideal that these complications should be treated in a tertiary care hospital setting, sometimes the TI staff has to manage some conditions such as maggot infestation, ulcer, gangrene in the DIC itself. Some of the points towards management of these conditions include:

• Maggot Infestation

- Clean the wound with H₂O₂, wash with normal saline.
- Dress with Betadine/local antiseptics.
- Instill (pour drop by drop) liquid turpentine to remove the maggots.

• Ulcers

- Clean the ulcer with H₂O₂ and then wash with normal saline.
- Scrub with gauze dipped in Betadine and remove the debris/dead tissue, if present.
- Apply Soframycin/Neosporin ointment.
- Dress with micropore or cotton bandage.

- **Gangrene**
 - **In early stages:** when gangrene is not fully established, peripheral vasodilator (tab. Pentoxifylline 400 mg thrice a day at regular intervals) is used as it increases the blood supply. Cleaning and dressing with Betadine/ Soframycin ointment is also done.
 - **At late stages:** debridement is done – a procedure that involves the surgical removal of devitalized (dead) tissues. If the gangrene is extensive, amputation (procedure involving surgical removal of the entire affected part of the body) is done.

4.5 Vaccination

Client should be vaccinated against tetanus, if he/she has not been vaccinated previously. For vaccination, the client can be referred to a nearby government hospital, where these vaccines are provided free of cost under routine immunization program.

- For vaccination, give 0.5 ml Tetanus Toxoid (TT) in the upper arm after cleaning the skin with an alcohol swab. If the client has not been vaccinated before (within the past five years), then he/she should receive another two shots at four weeks interval.
- Client should also be advised for vaccination against Hepatitis A & Hepatitis B.

Basic Dos and Don'ts for Clients having Abscess

- ⊙ Clients should be educated to inject at least 8 – 10 inches away from the abscess site.
- ⊙ Clients should be told they must never try to puncture an abscess themselves, as it can spread the infection and can lead to septicaemia (blood poisoning).
- ⊙ Clients should be motivated to initiate Opioid Substitution Therapy (OST), if OST is available in nearby settings. It is one of the most effective interventions to reduce the likelihood of developing injection related infections.
- ⊙ Homeless and street-based clients with abscess should preferably be admitted in rehabilitation centres.
- ⊙ Clients should be educated on safe injecting practices, which include the use of clean needles and syringes. This is essential in preventing injection related infections and harms.

5. Abscess Prevention and Management – Operational Issues ■■■

Prevention and management of abscess is a multi-disciplinary team effort. While the outreach team along with the counsellor and project manager play a major role in abscess prevention, abscess management should be led by the doctor and nurse working in the TI.

5.1 Infrastructure

Sufficient space within DIC premises should be provided for abscess management. A sterile room

with good light and ventilation is necessary for abscess management. There should be sufficient referral budget, within the overall budget, which can be used to transport the client to a hospital or a care home. The abscess management should be conducted in a medical room, which is a room to conduct medical examinations, diagnosis, provide treatment as well as a place to provide abscess care and wound dressing. Adequate hygiene and sterilization should be ensured in the room.

5.2 Equipment

- Stethoscope.
- BP apparatus (sphygmomanometer).
- Thermometer.
- Torch.
- Tongue depressor.
- Weighing scales.
- Kidney trays.
- Cheatle forceps, artery forceps.
- Needle and suture needle holder with suture material
- Sterile drums with sterile gauze and bandages.
- Sterile packets of catgut, Nylonsutures, Prolene Mesh, Silk, etc.
- Sticking plaster.
- Suture cutting scissors.
- Disposable gloves and masks.
- Surgical knife and blades.

5.3 Medicines and Consumables

- Sterilinium (hand disinfectant).
- Local anaesthetic (Lignocaine).
- Soframycin/Neosporin ointment.
- Micropore tape.
- Cotton and gauze.
- Face-mask.
- Hydrogen peroxide solution.
- Savlon and Betadine solution.
- Cidex for instrument sterilization.
- Bandages.
- Needle and syringes.
- Surgical latex gloves.
- 2% Lidocaine without adrenaline.

5.4 TI Staff – Roles and Responsibilities

Outreach Staff: Peer Educators and Outreach Workers

The primary role of the outreach staff is to educate clients on the basics of abscess prevention and inform them of the services available on abscess management at the TI DIC. Finally, they should assist the client in referral services. The outreach staff should be regularly trained by the senior project staff, including the medical team on abscess prevention and basic management issues.

The outreach staff’s key responsibilities should be to:

- Conduct one-to-one and group discussions on various aspects of abscess.
- Educate clients on safer injecting practices.
- Educate clients on dos and don’ts when there is an abscess.
- Refer the client to the TI DIC when he/she develops an abscess.
- Assist the nurse/doctor in providing treatment to the client.
- Ensure that the client regularly visits the DIC for abscess management.
- Alert the TI staff if/when the client develops abscess related complications.
- Assist clients in access to referral hospitals.

Counsellors

The basic role of the counsellors is in assisting the clients to avail the medical services available at the

DIC and provide one-to-one counselling to the client on abscess prevention and management.

The counsellor’s key responsibilities should be to:

- Provide counselling to clients on various aspects of abscess prevention and management.
- Encourage clients to undergo medical check-ups for abscesses.
- Refer clients to doctor/nurse/rehabilitation facility for treatment.
- Encourage clients to initiate OST.

Nurses

Nurses form the backbone of the day-to-day management of abscess in DIC setting. The nurse should undergo regular training to equip him/herself for management of abscesses.

The nurse's key responsibilities should be to:

- Provide basic first-aid services for every client coming to the DIC with abscess.
- Ensure that the client is seen by the doctor for proper diagnosis and appropriate management, including prescription of medicines.
- Clean and dress the wound.
- Inform ORW/PE/counsellor of any client with abscesses for follow-up.
- Provide basic counselling on abscess prevention and treatment.

Doctor

A part-time doctor should visit the DIC on five days every week. The doctor should provide general medical care to the IDU clients including treatment of abscess.

The doctor's key responsibilities should be to:

- Conduct thorough examination of every client reporting with abscess.
- Advise for investigation and referral, if the client cannot be managed at DIC.
- Motivate the client for regular follow-up.
- Prescribe antibiotics to clients.
- Incision and drainage of abscess.
- Train staff on abscess related issues.
- Supervise the nurse in dressing of abscess.

Project Manager

The Project Manager (PM) working for the TI project should regularly visit the DIC almost on a daily basis to oversee the working of the DIC. During such visits, the PM should ensure that appropriate medicines and equipment are available in the DIC for abscess management. In addition, the PM can also conduct group discussions for the IDU clients in the DIC on abscess related issues.

The project manager's key responsibilities should be to:

- Supervise clinic activities on a regular basis.
- Facilitate advocacy meetings and focus group discussions.
- Perform capacity building of staff and organization.
- Develop DIC policies and plans with regard to abscess management
- Continuously analyze project activities with regard to abscess prevention and management.

5.5 Guidelines for Day-to-Day Operations

Abscess prevention and management should be conducted in both outreach and DIC settings. If the abscess cannot be managed at DIC level, referral services should be established with a nearby hospital which has a surgical department.

Outreach Setting

In the outreach setting, the outreach team (ORWs and PEs) should educate the IDUs on abscess prevention methods.

- A rapport should be established with the IDU client.
- The IDU client should be registered in the TI and other harm reduction services should be provided.
- Specific educational sessions on abscess should be conducted, which should be led by the ORW. The topics can be covered in more than one session. The following topics should be covered – what are abscesses, how abscesses are formed, how to prevent abscesses, management of abscesses and care of wound, etc.
- In case an IDU client develops an abscess, the outreach team must make efforts to bring the client to the DIC for further treatment by the DIC medical team.
- In case, an IDU requires to be referred to a hospital for further management, the outreach team should accompany the client to the referred hospital and ensure that the client is seen by the doctors in the referred hospital.

- The outreach team should also ensure that the client follows the treatment regime advised by the doctor/nurse, including daily dressing, taking medications regularly and follow up with the doctor/nurse.

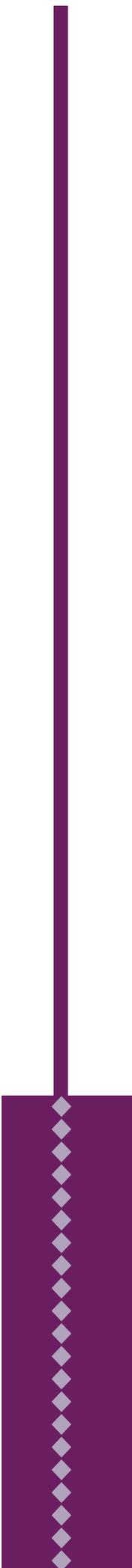
DIC Setting

In the DIC setting, the doctor and nurse should form the core team for management of abscesses.

- When an IDU is brought to the DIC by any of the outreach team, the nurse should

perform a basic examination and consult the doctor for further management.

- The doctor should carry out a detailed examination of the client and advise appropriate treatment (as described in the section on management of abscess).
- The nurse should do daily dressing of the wound, if required.
- The doctor should refer the client to an appropriate hospital, if required.



Summary

Abscesses are frequent among injecting drug users. Treatment for most abscesses is relatively simple and can be provided at the TI level and drop-in centres. Early diagnosis and treatment can prevent serious complications of abscesses. A comprehensive system to engage drug users includes harm minimization, counselling, drug

treatment, availability of sterile syringes, adequate pain management prior to incision and drainage and providing respect for the difficult choices drug users make every day. This can reduce the burden of abscesses for both IDUs and the healthcare system.

References

1. International Harm Reduction Association, 2010. Global State of Harm Reduction 2010, Key issues for broadening the response. Hope V. Neglected Infections, real harms: A global scoping of injection-related bacterial infections and responses.
2. The care and treatment of skin and soft tissue infections among injection drug users in the community setting. Bamberger JD. <http://home.mchsi.com/~apclc/abcess.pdf>
3. The British Journal of Dermatology. 2004; 150(1). Guidice PD. Cutaneous Complication of Intravenous Drug Abuse.
4. World Health Organisation, Regional Office for South East Asia. 2009. Injection-related infections. In: Management of Common Health Problems of Drug Users. (Technical Publication Series No. 56). http://www.searo.who.int/LinkFiles/HIV-AIDS_Primary_care_guidelines.pdf

