

# FILTERING DRUGS

A Guide to Filters  
and Filtering Drugs  
for Injection



New Zealand  
Needle Exchange  
Programme



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# FILTERING

## drugs for injection

The New Zealand Needle Exchange Programme (NZNEP) takes a harm reduction approach to substance use. This means that while we don't condone injecting drugs we want to provide all the information you need to keep safe. Filtering your drugs is a very important part of making injecting safer for you.

This booklet provides a guide to filtering and gives an overview of the different types of filters and which ones are recommended for specific drugs. It should be read alongside our other booklets, 'Veintenance' which provides information on keeping your veins healthy, 'Injecting and Your Health' which has information about injecting procedures and 'Overdose' which has information about what to do if someone overdoses.



# Why filter your DRUGS?

An unfiltered or badly filtered taste can have a lot of nasty effects both in the short and long term. Micron filters (needle & wheel filters) are specifically designed to remove impurities and can significantly reduce the amount of harmful material and contaminants in your taste. Filtering will reduce the damage injecting drugs does to your body. Using the right filter will remove impurities and means that you will enjoy a cleaner taste.

The most commonly injected drugs in NZ contain many impurities. Pills contain talc, wax and numerous binders, which if injected into the bloodstream are not broken down, and gather in veins and organs. Methadone is generally not sterile. Opium contains organic matter and bacteria. Steroids are often of unknown quality and purity. Street drugs such as homebake, methamphetamine and speed are generally made to be injectable, but because they aren't made in a sterile lab by a qualified chemist they frequently contain impurities and by-products of the manufacturing process. Cigarette filters do not remove all of these impurities but micron filters do. Ciggy filters only filter out particles larger than 50 microns which is 10 times larger than the smallest blood vessels in the human body.



**Left** Filtered with 0.8 Micron **GREEN** Wheel filter  
**Right** Unfiltered

If you are going to inject drugs it is really important that you filter them properly. It only adds a few seconds to your preparation time to use a needle filter or wheel filter and they are very easy to use.

# Types of FILTERS

## **Cigarette Filter - 50 microns\***

Ciggy filters are not sterile and should only be used as a **pre-filter** to remove large particles and other debris before using a wheel filter. **Never** use filters from tailor-made cigarettes as they contain things like glass fibres, bleach and other chemicals. We recommend ciggy filters, such as the Boomerang brand as they are made of non-toxic wood pulp. They are ideal for filtering from your spoon or Steri-cup, bag or other container. Make sure you remove the paper first. Ciggy filters will remove anything larger than 50 microns from your taste but will allow particles smaller than 50 microns, including bacteria to get into your bloodstream. A micron is a thousandth of a millimetre.

## **Other Homemade Filters – 50 microns**

Cotton wool, tampons and a piece of an alcohol swab are other types of homemade filters. These should only be used as a **pre-filter** to remove large particles such as binders, undissolved wax, and other impurities. These types of filters are often not sterile and may contain fungi or bleaches. There is also the risk of small fibres breaking off and getting into your mix. These fibres can lodge in your veins, lungs and other tissue.

## **Needle Filter - 5 microns**

A needle filter looks a lot like a regular 18g needle. The main difference is it has a small filter in the hub and the needle isn't as sharp as a needle meant for injecting.

A needle filter will remove particles larger than 5 microns that are big enough to block capillaries. Needle filters are ideal for filtering from vials, ampoules, methadone bottles, and bags. Needle filters are best as a pre-filter. A 0.2 micron **BLUE** wheel filter should be used as a final filter.



### **Wheel Filters**

Wheel Filters come in several different sizes. They are sterile and the safest, most effective way of filtering out contaminants and impurities, including bacteria from your drugs. It is important to use the right filter for the drugs you are using.

**Wheel filters are the best way to avoid a dirty taste.**

*\* A micron is a thousandth of a millimetre*



## Wheel Filter Sizes



### **BROWN** WHEEL - 5 microns

This is the coarsest wheel filter and will filter out plant fibres, moulds, fungi, and larger particles. Use for thicker solutions such as chalky pills or some poppy tastes.



### **RED** WHEEL - 1.2 microns

This will filter out finer particles, fungi, spores and some bacteria. Most gear can be put through a red without blocking.



### **GREEN** WHEEL - 0.8 microns

Slightly finer than red, this one will remove most contaminants, and will still handle most drugs without blocking.



### **YELLOW** WHEEL - 0.45 microns

A very fine filter that removes most, but not all, bacteria. Pre-filtering is essential with fine filters to ensure they don't block.



### **BLUE** WHEEL - 0.2 micron

This is the finest filter available, and will remove all bacteria from your taste. Use as the final filter. A blue wheel filter is all you need for liquid that is already very clean and transparent.

# How Wheel Filters WORK

Wheel filters clean up your taste without removing any of the drugs. Injectable drugs are water soluble and anything that dissolves in water will pass through the filter into your new fit. Particles and micro-organisms float in the liquid and can be removed with a wheel filter.

Filters work like a sieve, trapping anything larger than the filter's size in the filter membrane. This takes out what you don't want floating around your bloodstream, including tablet binding agents, plant matter, fungi and bacteria.

Even the cleanest looking taste can contain invisible particles and potentially damaging micro-organisms. EVERY taste should be put through a BLUE wheel as the final step, which will remove even the smallest bacteria.

Viruses such as hepatitis B & C and HIV are up to 10 times smaller than the blue wheel filter can remove. So **never let** a wheel filter come into contact with a used fit, and use all **new** equipment for every taste.

# WHICH Wheel Filter for...?

Most drugs can be filtered effectively with one wheel filter, but there are some drugs where two filters should be used if possible. If you are only able to use one wheel filter, refer to the table below for the best option. Blue filters are the only filter that removes all bacteria from your taste.

Drug	Recommended filter	Recommended filter for larger quantity
100 mg MST	BLUE	
60 mg MST	GREEN	RED for 2 or more
30 mg MST	RED	BROWN for 2 or more
M-Eslon	RED	
PH'd Morphine	BLUE	
Heroin	BLUE	
Pethidine	BLUE	
Biodone / Methadone (no thickener)	BLUE	
Methadone with Cyclizine (Marzine / Nausicalm)	GREEN	RED for 3 or more
Oxycodone	BLUE	
Opium	RED	
Suboxone (tablet)	BLUE	
Coke	BLUE	
Methamphetamine (P)	BLUE	
Amphetamine Sulphate (Dexamphetamine)	BLUE	
10mg Methylphenidate IR - (Rubifen)	BLUE	YELLOW for 6 or more
20mg Methylphenidate SR (Rubifen)	BLUE	YELLOW for 6 or more
Ritalin LA Methylphenidate Capsules	BLUE	
Concerta Extended Release Methylphenidate **	RED	BROWN for a few

\*\* To prevent binders and other particles or contaminants blocking the filter and / or getting into your taste, we recommend soaking the contents of the Concerta in water for 12-24 hours.

This is a guide only. The best filter size will also depend on the amount of drugs being filtered, how they are prepared, or what they are cut with. If in doubt or if a filter blocks, try a larger size, then use a finer one afterwards. You'll soon get to know what works best. Ask staff at your local NZNEP outlet for advice if you experience any difficulties.

### **Pre-filtering**

Some drugs require pre-filtering to remove large particles before using a wheel filter.

To remove large particles a ciggy filter with the paper removed is placed into the mix and the drugs are drawn up into a syringe through the ciggy filter.



When preparing tablets it is essential that you crush up the tablet or capsule contents as finely as possible to help prevent blocking the filter and to ensure all of the drug is dissolved into the liquid. Liquids should be cooled to room temperature before filtering to prevent wax from passing through the filter while still dissolved.

When using a ciggy filter or cotton to filter pills or capsules that contain wax (MST's, M-Eslon) and are prepared with a method using heat, in addition to letting your taste cool down before filtering, it is important to wet the ciggy filter / cotton with sterile water before putting it into the mix. A wet filter helps prevent liquefied wax from being sucked into the filter, blocking it or making it difficult to draw through.

It is worth taking a few extra seconds to do it right, so you don't inject contaminants and get the most out of your taste!

## How to use a WHEEL FILTER

Wheel filters are bi-directional so you can filter through them either way, i.e. push through or suck up. A filter should be used in one direction only, otherwise you will end up flushing out all of the impurities and contaminants you are trying to get rid of. We recommend pushing the drugs through the wheel filter from a syringe, not the other way around as it is easier to filter drugs when used this way.

In addition to the usual equipment (a new fit for each person, swabs, sterile water etc) you will need:

- A mixing fit
- A needle for the filter
- A wheel filter or two

Clean a workspace, wash your hands and swab your spoon. Prepare the drugs as usual then cool the gear right down.

Before using a filter it is a good idea to wet it. Using the sterile handling procedure shown on the next page, put 1ml of sterile water in your mixing fit, screw on the filter and push the water through. This may help to reduce blocking if you are filtering thicker gear or larger amounts.

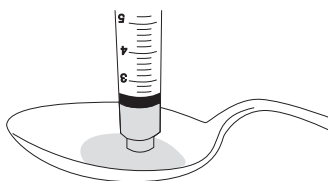
*step by step instructions next page >*

1. Peel back the cover from the wheel filter package.

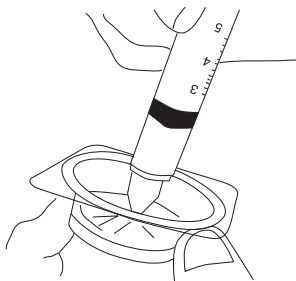
Using a new syringe, squirt sterile water through the filter to wet the membrane.



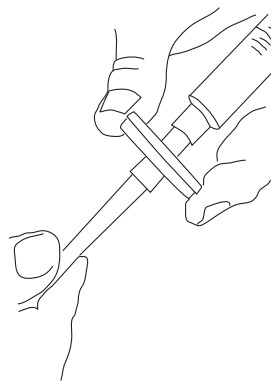
2. Draw up drugs through a clean cigarette filter, or cotton wool, into a new mixing fit.



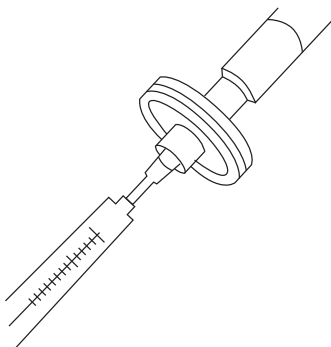
3. Carefully screw the mixing fit onto wheel filter (not too tight).



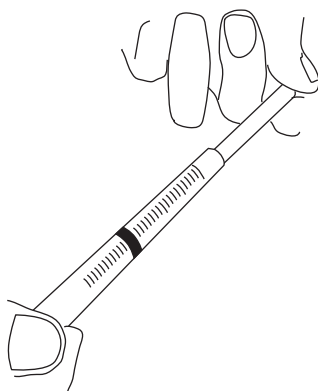
4. Screw a new needle onto the wheel filter outlet (don't touch the filter outlet).



- Using gentle even pressure push the gear through the filter into your new fit(s).

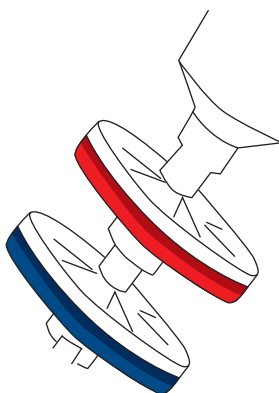


- Remove the filter. Draw up 1/2ml of sterile water into the mixing fit. Re-attach the filter and push water through the filter into your fit. This will get any remaining dregs out.



- Screw a new needle on to your fit and it's done.

If you need more than one wheel filter for the job, either use 2 mixing fits, or you can piggy back the filters like this. Make sure you put the lowest micron filter at the end.



*Wheel Filter hints next page >*

# Wheel Filter

## HINTS

- 1.** Wheel Filters are designed for single use only. After use bacteria will develop quickly in the filter increasing the risk of dirty tastes and serious (potentially life-threatening) infections if re-used.
- 2.** Don't screw the filter onto the barrel too tightly. If the filter hub cracks, don't try to use it or you'll lose your gear.
- 3.** Trying to force liquid through a filter may cause it to burst.
- 4.** Make sure you cool MST's (or any other pill you heat) so that the wax sets properly before filtering. If you filter while the mix is still warm the wax can pass through the filter and end up in your taste. Wax in your taste can result in blocked needles or if you inject wax it will cause damage to veins and organs.
- 5.** Do not put hot liquids through a wheel filter – they will damage the filter membrane.
- 6.** With powder drugs and pills that are mixed up with cold water, it's really important to use a blue wheel filter to remove bacteria. Improperly filtered drugs of this kind increase the risk of endocarditis (heart infection).
- 7.** Crushing your pills as finely and consistently as possible will make it easier to filter and ensure you get the best taste possible.



# Not Wheel Filtering? HERE ARE THE RISKS

## Dirty Tastes

The best way to avoid a dirty taste is by using a wheel filter and always having good hygiene practices in preparing your drugs.

'Dirty tastes' are caused by injecting bacteria or toxins into your bloodstream. They are generally used to describe a taste that makes you sick. They can be caused by a range of things such as bacteria in the water you use to dissolve your drugs; chemicals in cigarette filters; toxic substances in your drugs; and not cleaning (swabbing) your skin before you inject.

Signs of a dirty taste can be:

- Feeling very unwell just after injecting
- Shivering or trembling
- Sweating
- Headache
- Throbbing or pounding sensation in your lower back region

Although a dirty taste can make you very sick, it should wear off after a few hours so it's best just to sit it out. Make sure you keep up fluids – water is best. If you don't start to feel better after a few hours, or you start to feel worse – get medical attention.

Even if you don't feel like you are 'stoned' the drugs will still be in your system, so DON'T re-inject or take more drugs. However tempting it is, your chances of overdosing will be very high. Taking paracetamol is ok. Injecting salt water is not ok.

If you are unwilling to stick to this advice make sure you use new equipment, a different batch of the drug, and that you only use a small amount to prevent overdose.

### **Infections**

Septicaemia (or blood poisoning); endocarditis (an infection of the heart lining); and tetanus are all infections caused by bacteria getting into your bloodstream. These infections can all be fatal if not treated. They can be prevented by always using sterile water when preparing your taste, using new, clean ciggy filters; putting your taste through a wheel filter; making sure your spoon/Steri-cup/ other container is new or sterile; by thoroughly washing and drying your hands; and, by always swabbing your injection site prior to injecting.

### **Abscesses**

An abscess is an infected lump under your skin. They usually start with redness, swelling, and tenderness at the injection site and develop into an infection with a hard, pus-filled core. They can occur anywhere on your body, not just where you inject.

Abscesses can result from dirty tastes, missed shots, not swabbing your injection site, not filtering your drugs, and from using unsterile or used equipment.

If you notice a hard, warm lump developing, apply a warm compress at least three times a day. This will either make the abscess go away or make it come to a head. Keep the area clean. If it comes to a head, it may need to be lanced (opened up to clear out the pus) and you may need antibiotics to clear the infection. Abscesses can be very serious and may need medical treatment. If you get treatment early enough the problem should be easily sorted.

DON'T try to lance an abscess yourself as you may get blood poisoning.

DON'T leave an abscess to get better on its own. It's just as likely to get a lot worse. Get medical help or ask for advice at your local NZNEP outlet.

### **Lumps**

People who inject drugs often get lumps but some lumps are worse than others.

Missed hits often leave a lump.

These usually vanish after a day or two.

You will need to get medical attention if:

- The lump feels sore, or warmer, than the surrounding skin, as it is probably infected.
- The redness is spreading, or the area is painful and swollen, as it could be cellulitis. This can be very serious.

### **DON'T try to inject near a lump.**

Give that area a rest and use another site.

### **Long Term Effects**

Over a longer period, injecting impurities straight into your bloodstream can lead to more serious health problems.

If you don't filter your drugs properly it can lead to:

- Endocarditis – an infection of the valves of the heart
- Vein damage, collapsed veins
- Weakened immune system that affects your ability to deal with infections
- Embolism – where clumps of impurities or bacteria block blood vessels and cause thrombosis
- Harmful deposits of particles in larger blood vessels, eyes, lungs and other organs.

## Sharing

Don't share needles, syringes, spoons, tourniquets or anything that has been used by someone else. This is how viruses such as hepatitis C and HIV can be transmitted from one person to another.

We recommend each person has their own filters to prevent cross-contamination. If it isn't possible for each person to use their own wheel filter and the alternative is not using a wheel filter, it is possible to use a wheel filter for more than one taste if no used equipment comes into contact with the drugs, the filter, or the outfits to be used. For example, if several people wanted to use one filter they could mix up in a new 10ml barrel, filter into another new 10ml barrel and then divide the mix into a new syringe for each person.

You can read more about safely sharing drugs in our booklet 'Injecting and Your Health.'



# Resources

The New Zealand Needle Exchange Programme (NZNEP) have published a booklet on **'Overdose'** that includes how to do CPR. Read this so that you have a better chance of avoiding an overdose and are prepared and able to help if one of your friends OD's.

We also recommend that you read the booklets **'Veintenance'** to learn more about which veins to use and about caring for your veins and **'Injecting and Your Health'** for more information about safe injecting procedures.



We recognise that everyone is different and urge you to talk to staff at your local NZNEP about any specific needs you have and for advice on what might work best for you.

# Getting Help

## **New Zealand Needle Exchanges**

Contact a New Zealand Needle Exchange outlet in your area for free confidential information about obtaining needles, syringes and other injecting equipment and for advice on safe injecting. Visit the NZNEP website [www.nznep.org.nz](http://www.nznep.org.nz) to find your nearest outlet.

## **Information and Treatment Referral**

The Alcohol and Drug Helpline 0800 787 797 provides confidential advice and is able to refer you to an addiction service provider.

NZNEP staff will also be able to provide information on treatment services available.

DON'T SHARE  
A BLOODY THING



# ALWAYS FILTER YOUR DRUGS



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