

# ***HRTIhkal***

Hormone Replacement Therapies I have known and loved

*Who if not you? When if not now?*

## **Introduction**

DIY hormones are increasingly becoming a lot of people's only viable option. The thing that we in the community of people who are producing and distributing them most need by far is more people joining us. This booklet will tell you how to do that. Even if you're only supplying yourself, it makes you independent from the whims and questionable dosing schedules of the NHS<sup>1</sup> (and takes some of the pressure off us).

Starting from nothing, with a core team of no more than four or five people at any one time, we set up a hormone distribution group that grew over the course of a year to supply at least a hundred people. This booklet is what we learned. We hope to help create a network of DIY HRT producers, or of transgender criminals more broadly, who can help each other out while being separate enough that one organisation being taken down won't bring down the rest.

The booklet is divided into three chapters – *Running the Organisation* (p2), *Basics of Trans Endocrinology* (p6) and *Practical HRT Compounding* (p9), plus a series of appendices.

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1 This guide is written in the UK. Some aspects will be different in other countries, especially around the law but also sometimes things like what chemicals are widely available.

# Running the Organisation

## What you'll need

You'll need some people. In particular, you'll want at least a couple of:

Someone with a job, for cash flow
Someone without a job, for free time
Someone who knows about tech, especially privacy tech
Someone who knows about pharmacology, and ideally endocrinology
Someone who knows a little bit about chemistry – it doesn't come up much, but it's good to have
Someone who's sold drugs before

When recruiting people, we find it helps to look for people who aren't just theoretically willing to break the law but already have practical experience of it. This goes double for your tech person, because for some reason tech people are often cowards. None of the people above are absolutely critical, but try to make sure that for as many of the sections below as possible you have someone who already knows a bit about it.

You'll need some plans, processes and possibly equipment for secure communication and receiving packages – read the sections on safety and communications below. For a small experimental first run, these can be as simple as communicating over Signal and receiving your packages at a different address to the one where you store them and do the compounding. Don't get too caught up perfecting your infrastructure before you've had a chance to test it.

You'll need some equipment for doing the compounding, this is discussed in more detail in chapter three but it's nothing very complicated – aside from a milligram-precision weighing scale, you could get away with just using kitchen equipment<sup>2</sup>.

## Knowing the risks and staying safe

It's important to know what you're getting into. Depending on the scale your operation reaches, some people involved might be risking significant prison time (at least in theory). Read the law, sentencing guidelines and precedent cases (appendix 5), but remember that because it's trans people and therefore political, it's always possible that the courts will be harsher than with regular steroid dealers. Then,

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<sup>2</sup> This guide is focused on transdermal HRT. Please do not make injections using kitchen equipment.

having learned the risks, try not to get scared out of doing it – the actual consequences are unlikely to be as bad as the worst case, and you may never get caught in the first place.

Supplying testosterone is more illegal than estradiol, because testosterone is a class C controlled substance whereas estradiol is just a prescription-only medication. We feel it's important to supply both anyway, because transdermal testosterone is harder to get and because we need transmasc/transfem solidarity, but everyone will have to make their own decision on that.

We use the briarthorn opsec guide as the basis of our processes for not getting caught (appendix 6). Reading this is crucial for anyone involved who isn't already up on their operational security (and if you are, remember that the threat model for DIYers is quite different to the threat model for protesters). We'll mention the occasional cases where we disagree with it.

## The learning process

Operating an organisation like this is complicated. You will definitely fuck it up repeatedly, which is how you learn. Hopefully this book will reduce the frequency and impact of that, but it'll still happen. This is why it's important to start small and grow slowly, so you can make your bigger mistakes while your risk and responsibility is still small. We recommend starting by supplying just yourselves, until you've messed up enough batches to be confident in the product, then growing to just a few people until the distribution process is hardened, etcetera.

## Distribution

If you're working on a small scale and providing for people you trust, you may be able to distribute in person. Otherwise, both for security and for practical reasons, you'll probably need to send hormones by mail. The briarthorn opsec guide has recommendations for this (appendix 6, p17). You may want to try to find bottles to put your products in that are the right size and shape to fit in a large letter rather than a parcel, both so you can use regular postboxes and to reduce the amount of postage you're paying. Distributing by post also has the advantage of reaching isolated trans people, eg. in rural communities, who don't know anyone who can help them in person.

## External Communications

Unless you're just providing to your friends, you'll need to make the right people aware of what you're doing, ideally without drawing too much attention from the cis. You're probably thinking about getting listed on the [cafe](#), but organisations there get a *lot* of demand. You're unlikely to be able to keep up, at least until you've been running for a while. Finding people who want HRT and don't have it is ultimately pretty easy, since there's so many of them. We've had quite a lot of success just by putting people we meet in touch with the organisation (not mentioning that it's us) and letting them recommend it to others once they're getting their HRT from it. We've also found it fairly effective to make stickers and write on the walls of gay bar bathrooms, and talk to people in online trans spaces when they mention looking for DIY HRT (but see the briarthorn processes for using the internet in appendix 6, p9).

There's not much mention of email in the briarthorn guide, because it's highly insecure – you should assume the police can read any email you've sent if they start investigating you. However, it is very accessible, so we offer a public email address for external communication, since the people getting HRT from us for personal use aren't committing a crime themselves. Having a website is a good idea, because it makes you look “professional” – that is, puts people at ease that you know what you're doing, which is what a lot of external communication is about. Many people are quite nervous about the safety of DIYing. You can pay for web hosting using cryptocurrency, but it's probably best to use a free web hosting provider at least to begin with – you don't need to look *that* professional, and any payment is another thing that could be used to trace you.

## Internal Communications

Internal communications are important for efficient organisation, but also the source of a lot of security risk. The briarthorn guide has processes for talking to people through the internet which are largely good<sup>3</sup> (appendix 6, p9). Don't forget about defense in depth here – use aliases for your internal communications, nobody who doesn't have to should know who a particular alias corresponds to. Ideally, especially in a more developed organisation, aliases should have one job and people doing several jobs should use several separate aliases. Information should be discarded once it's no longer needed – if you're using Signal, you can simply enable disappearing messages to have old messages deleted automatically. We've known activist groups that kept minutes of their meetings going back years, some of which included real names and evidence of criminal conspiracy. Don't be like them. For instance, we keep all our outstanding orders in a Signal chat between the people taking orders and the people fulfilling them, so all information we have about our customers is automatically deleted and we have to ask people for their addresses again every time they order more.

It may be worth moving away from Signal, since the phone number requirement is a bit of a problem and the account registration process doesn't always like Tor. SimpleX, mentioned in briarthorn, seems to be becoming increasingly accepted, but we'd still recommend only using it over Tor.

If you end up needing to destroy data, the briarthorn guide describes destroying hard drives with heat. Our understanding is that it's difficult to reach the required temperatures, so don't rely on that.

## Funding

Unless you're independently wealthy, you'll need to fund your operation somehow. Since you're probably doing this for altruistic or political reasons, it's likely that you don't want to just charge people for the hormones you're providing them<sup>4</sup>. We see three main other ways to do it, all of which we or our friends have used to some extent.

You can do something else to make money and spend that money on giving people hormones. If a couple of members of your group have disposable income this might work, but it doesn't scale.

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3 although we think they're wrong about setting up Signal accounts without activating a SIM card, we've found that this works with lebara SIMs but not other providers. You can also use services that hire out phone numbers temporarily for receiving messages, paid with cryptocurrency, such as smspool.net

4 but if you do, go right ahead – we'd much rather have people making expensive for-profit DIY HRT than nobody making any at all.

You can ask for donations from the community, mutual aid funds, run benefits and so forth. Unfortunately this also doesn't scale, and if you're getting donations from legitimate organisations and events you'll have to decide between risking exposure and lying about what you're using it for.

The approach we've settled on is a kind of pseudo-payment donation system, where we ask for slightly more than the cost of production from people who can afford it and use the money to provide it for free to anyone who can't. It's effectively the same as asking for donations, but by doing it as part of the distribution process we get most of the benefit of requiring payment – ie. that our reach in fundraising scales automatically with the size of the operation – without having to turn anyone away who can't afford it. We've found that enough people are happy and able to pay to cover it for all the people who can't afford it. Sometimes the hardest part is convincing people who can't afford it that it's okay to take it for free.

The money should be held in ways that are difficult to trace – as physical cash and properly laundered cryptocurrency (appendix 6, p14). This means at least one person involved will need to learn how to use cryptocurrency. If you set aside an afternoon and sit down with a cup of coffee it's not really too hard. You'll likely have to explain it to other people too so that they can give you money. Rather than requiring that other people use monero, which is an additional thing to learn since - as the briarthorn guide mentions - it can't be bought directly in the UK, you can receive it from them in another currency and convert it yourself (we use litecoin). If you do this then you may want to occasionally create a new receiving wallet and discard the old one to reduce the amount of information about your finances that's being exposed by the non-private currency. If you need to convert cryptocurrency to cash, you can use a decentralised exchange (often called a DEX) to find someone who'll send you cash in the post in exchange for it.

## **Good Practices**

There's a certain amount of responsibility that comes with providing medication to people. Obviously there's a responsibility to make sure the product is safe and reasonably good quality. We try to ensure that by using our own products for ourselves. We think it's important to ensure we can supply all the people we commit to supplying steadily and consistently, so they don't have to worry about it. That involves not taking on more people than we can manage, so we don't run out of time and resources for them all and also so we don't grow our organisation too fast, as that risks it collapsing. We think it's ambiguous whether it's okay to make money from providing hormones (the problem with doing it totally nonprofit being that only people who are well-off enough to spend a lot of their time on doing stuff for free can be involved), but there's definitely some kind of limit. We also feel that it's ethically dubious to be in a romantic or sexual relationship with someone who relies on us for their medication (at least if they know it's us).

# Basics of Trans Endocrinology

Hormone replacement therapy works by changing the balance of sex hormones in someone's body, so that the parts of the body that are regulated by sex hormones will work differently. The main sex hormones are testosterone and estradiol. Estradiol is not the same thing as estrogen. Estrogens are a category of chemicals which includes the primary feminising hormone estradiol (E2 for short), and also two main other feminising hormones estrone (E1) and estriol (E3). Conversely, testosterone is a single chemical in the category of androgens, which also includes dihydrotestosterone (DHT) – that is, the “opposite” of estrogen is androgen, and the “opposite” of testosterone is estradiol. A third category of hormones called progestogens contains progesterone, which is also useful for (primarily feminising) HRT.

These days we have access to hormones that are chemically identical to the ones produced by our bodies (see appendix 1). In the past we used to use synthetic and animal hormones that weren't quite the same, which caused some health issues. A few DIYers still use synthetic progestin based birth control as a substitute for progesterone, which is not recommended if you can at all avoid it due to the aforementioned health risks, specifics of which vary between different progestins.

## Routes of administration

There are several ways of getting hormones into your body, each with different advantages and disadvantages. This guide will focus on transdermal application (rubbing into the skin, ie. gels, creams and sprays), because it's the safest and easiest. However, it's also possible to take most kinds of HRT subcutaneously or intramuscularly (injections), orally (pills) or rectally (suppositories). A lot of people consider injections the best approach for testosterone and estradiol, and they have advantages because they don't have to be done every day and are very effective and efficient at getting all the hormones into your body, but they're much harder to make safely and have a high barrier to entry for people who can't do them already. Pills are easy to use but a little harder to make safely and harder on the liver. Suppositories are similarly a little harder to make safely, but they arguably have advantages for progesterone because oral progesterone is largely ineffective for breast development, injectable progesterone is impractical due to it's short half life, and transdermal progesterone is under-researched.

## Blockers

Most people don't need to specifically block their body's production of hormones because a large enough dose of testosterone will block production of estrogens itself, and vice versa (this is referred to as monotherapy). But everyone's different, so some people might need to take hormone blockers as well.

The best androgen blockers are GnRH analogues, but these are expensive and difficult to get. There are a number of more available alternatives, but all of them have significant downsides. Bicalutamide is reasonably good and available, but requires liver function monitoring due to dangerous side effects in

about 1% of people. Cyproterone shouldn't be used for extended periods of time. Spironalactone has inconvenient side effects and is hard on the liver and kidneys. Finasteride is sometimes prescribed as a testosterone blocker but it actually isn't, it blocks only some androgenic effects by preventing the conversion of testosterone into dihydrotestosterone. It may also be neurologically harmful in long-term use. Overall, if someone can't get a GnRH analogue blocker, we think it's probably best to use monotherapy.

The best estrogen blockers are also GnRH analogues, they work both ways because they suppress the production of hormones in the gonads, regardless of what kind you have. We don't know that much about them (that is, we the writers of this booklet, there are people who do) but our understanding is that alternative estrogen blockers have similarly undesirable risks and side effects. There are also several kinds of drug that are sometimes described as estrogen blockers but actually have more complicated effects, such as SERMs (Selective Estrogen Receptor Modulators, such as tamoxifen, which act as estrogens in some tissues while blocking them in others and are sometimes used in non-binary HRT) and aromatase inhibitors such as anastrozole, which block only part of estrogen production and whose effects in people with ovaries depend on whether the person has been through menopause.

## Interpreting blood tests

People on HRT should generally get monitoring blood tests to make sure it's working and diagnose any problems. You'll need to be able to understand blood test results, both if you want to offer to interpret blood tests for people using your products and just to make sure the things you're making are working properly. Blood tests for transdermal HRT should be taken as close as possible to immediately before the next dose is taken, so the person's levels will be as low as they get – this is called testing at trough. The following blood tests are usually relevant:

Estradiol	We tend to aim for levels a little higher than the NHS prefers (see Dosing below), but be more careful about this with testosterone than estradiol because overly high testosterone levels carry more risk and excess testosterone can be converted by the body into estradiol. When reading and comparing these levels, note that they may be given in different units by different sources, usually nmol/L or ng/dL for testosterone and pmol/L or pg/dL for estradiol.
Testosterone	
Liver Function Tests	Especially for people taking oral HRT, to make sure the liver isn't being damaged by the extra workload.

Luteinising Hormone	These are part of the system that the body uses to instruct the gonads to produce hormones. They can help diagnose the issue if levels aren't where you expect. High levels indicate that your body wants more hormones and is signaling the gonads to produce them, low levels that it isn't.
Follicle-Stimulating Hormone	
Sex Hormone Binding Globulin	This tracks with the total amount of sex hormones in your system on a lag of about three weeks. Because it changes slowly in response to hormone levels, it isn't affected by the regular peak and trough pattern where hormone levels are high right after you take your HRT and low before it's due, so it gives you a better idea of what your average levels are. The exact relationship will vary between people because there are other factors that affect SHGB levels as well, but by comparing SHGB levels for the same person at different times you can get an idea of how their real-terms hormone levels are.
Full Blood Count	For people taking testosterone, because testosterone levels higher than the normal male range can lead to a health issue (polycythemia, an excess of red blood cells) which is detected with a full blood count.

Some people may be able to convince their GPs to do their blood tests. For people who can't, there are private blood test providers (see appendix 4). Ideally people should get a blood test before starting HRT so they have a baseline to compare later levels to, but it's not absolutely required. Blood tests should ideally be done monthly to begin with, and can then be done less frequently once things seem stable. For people using transdermal HRT, it's important to avoid putting it on the place the blood will be taken from for a few days before and to clean the area thoroughly with alcohol<sup>5</sup>, because traces left on the skin may get into the blood sample. It's usually obvious when this has happened because the results for the relevant hormone will be absurdly high. If you can manage it we recommend getting tests where blood is drawn with a needle, rather than using the fingerprick lancets you get with at-home tests, because fingerprick tests aren't reliable. It's fairly easy to learn how to draw blood yourself if necessary.

## Dosing

Everyone responds differently to each form of HRT, so each person's dose has to be adjusted based on their blood test results until they reach the levels they want. As an approximate starting point we

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<sup>5</sup> Testosterone and estradiol are much more soluble in alcohol than water.

generally recommend people start on 40mg a day of testosterone (ideally applied 20mg in the morning and 20mg in the evening) or 5mg/day of estradiol. These are a little under what we expect people to end up using on average. We recommend people take a half dose for the first week or so, and don't adjust their dose for the first three months because blood tests before that may be misleading as the body is in the process of getting used to it. NHS guidelines target 15-20nmol/dL testosterone for transmas people and 400-600 pmol/L estradiol for transfem people, which is a little below average for cis people<sup>6</sup>. We generally recommend the high end of that or a little above.

The effectiveness of transdermal HRT depends in part on where it's applied. The standard areas are the arms or inner thighs. For transfem people, applying it to the scrotum will increase absorption significantly, allowing you to use less product and get a quicker spike in levels (this may or may not be desirable, for monotherapy it's generally better to have stable levels). However, it should be said that the NHS recommends against scrotal application because if you have unrecognised testicular cancer it may make it worse.

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<sup>6</sup> and in the transfem case, drastically below the peak that most cis women go through due to the menstrual cycle, which can take estradiol levels from 50 to 1500 pmol/L depending on the phase and the individual.

# Practical HRT Compounding

## Sourcing hormones as ingredients

The hormones in pure chemical form – ‘raws’ or ‘APIs’ (active pharmaceutical ingredients) in the parlance depending on how fancy you want to be about it – are mostly produced in Chinese chemical factories. You can order them directly by getting in touch through industrial sourcing routes, but they’ll usually want to deal only in large quantities (minimum orders are often a kilogram, worth around £1000 at time of writing) and you’ll be taking a risk on the shipment being stopped at customs (the companies themselves generally have a refreshing lack of respect for other countries’ controlled substances laws). If you want smaller quantities and less risk, you can pay a little more to get them from steroid suppliers (many steroid suppliers provide estradiol as well as testosterone, we’ve never quite gotten to the bottom of why). You can find a list of current suppliers in appendix 2.

For transdermal application you’ll want estradiol and testosterone base, not the ester forms such as enanthate that you’d use in injections<sup>7</sup>. You can specify the form you want clearly to the supplier using its CAS number (see appendix 1). It doesn’t matter too much if it’s micronised<sup>8</sup> or not, that’ll just make it dissolve easier at the expense of a tendency to get everywhere and stick to everything.

You’re ordering supplier-level quantities of controlled or prescription-only substances, so be careful in how you go about it (appendix 6, p17).

## Equipment

You’ll need some equipment for compounding HRT. In particular, you’ll need:

At least one large container to mix everything up in.
Measuring jugs or beakers.
An electric hand mixer (a milk frother may work for individual use, but it won’t be powerful enough for making large batches).
A good quality milligram scale.
Disposable masks and gloves (to avoid ingesting hormones by accident – very small quantities can have a noticeable effect).

<sup>7</sup> If you can’t get the base form, esters will probably work (go for the smallest ester you can get), but you’ll need to adjust the dosage to account for the fact that esters are less powerful by weight. Similarly, you can almost certainly use estradiol hemihydrate without altering the effectiveness, but you’ll have to adjust the dosages slightly to account for the fact that the hemihydrate form is only 97% as strong by weight.

<sup>8</sup> Powdered very finely.

A chemists powder spatula if possible, but teaspoons will do.

Some way of transferring the product to its final bottles once it's made – we recommend a really big syringe. Funnels don't work with gel because it's too thick.

For gel, an implement for scraping the sides of the container to get it all out.

Many of these requirements can be filled using kitchen equipment. If that's what you go for, keep it separate and don't cook with it, as traces of hormones large enough to feel the effects may well remain. All containers should be glass or plastic, not metal. Ideally, have separate equipment for each hormone. Either way, but especially if you don't have separate sets, all equipment should be washed with alcohol between uses to avoid cross contamination – just water won't do, because the hormones aren't very soluble in water.

## Recipes

In the abstract, transdermal HRT preparations consist of the relevant hormone dissolved in about 70% alcohol<sup>9</sup>, plus a penetration enhancer – a chemical that helps the hormone get through the skin. The penetration enhancer is optional. Common commercial products use it for testosterone but not for estradiol, because estradiol is stronger by weight so you can make up the difference by adding more, whereas with testosterone you may not be able to add more because of the limits of how much you can dissolve in a given amount of alcohol. We use it for both because we want to be able to provide hormones as cheaply as possible.

It's not really possible to talk about the strength of transdermal HRT in absolute terms, because how much of the hormone is actually absorbed by the body depends on many factors – concentration of alcohol, penetration enhancer, drying time, where it's applied, the skin of the individual using it. When talking about the strength we generally just specify how much of the hormone itself is in a given quantity, an upper bound on the amount that could be absorbed, but it's worth being aware that the actual strength of two gels could be quite different and someone's levels could change as a result of swapping. We can't put numbers on the true strength of a recipe without a proper study, but we can get a feel for it by comparing people's blood tests.

We provide here two main recipes, gel and spray. Each can be adapted for use with most hormones, and some variations are described. We recommend running through the recipe you intend to use a few times without adding the hormones to make sure it all works with the ingredients you have and to find any stumbling blocks (for instance, working with carbomer is pretty fiddly and it took us quite a few test runs to be confident in making a thickened gel that wouldn't lose its thickness and separate out). See appendix 3 for more information on the compounding process and alternative recipes. We recommend writing a batch number on the bottles when you make them – we've discovered twice after sending a

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<sup>9</sup> Conveniently, about the same concentration as alcohol-based hand sanitiser. Other solvents are available, but we don't have much experience with them. You may be able to find something in the sources in appendix 3 if you have reason to avoid alcohols.

batch out that we'd got the dosage wrong and had to alert people and send replacements, batch numbers make this much easier. The batch number can also be used as an extra check to distinguish which hormone is in the bottle, just in case you get confused or drop a load of identical-looking bottles together.

## Gel

Transdermal gels contain an alcohol, a thickener, an active ingredient and a penetration enhancer (which opens up the skin to help the active ingredient absorb). The form of HRT gel that we've developed goes like this:

### ***ingredients:***

Alcohol – can be isopropanol or ethanol, the difference is negligible. Try to get pharmaceutical grade if possible (also called USP grade or medical grade – it means it doesn't have contaminants that could be harmful for someone to absorb). Make sure either that it's 99% or that if it's dilute then you're aware of that and taking it into your calculations.

*1/12th of the total volume you intend to make.*

#### ONE OF

Alcohol-based hand sanitiser. It must be alcohol-based, and aside from alcohol, water and a thickening agent it should contain as little else as possible so as to minimise the risk of other ingredients interfering with anything.

*The remaining 11/12ths of the total volume you intend to make (the volume of the remaining ingredients is negligible).*

The ingredients to make your own thickened alcohol gel:

Pure distilled water.

*4/12ths of the total volume you intend to make.*

**AND**

More alcohol.

*The remaining 7/12ths of the total volume you intend to make.*

**AND**

Carbomer (grade isn't super important, experiment if you're having trouble with it).

*5g/L of the total volume you intend to make (experiment with this and adjust to taste. A thicker gel is generally better, because it takes longer to dry and therefore has longer to absorb).*

**AND**

<p>Triethanolamine<sup>10</sup>.</p> <p><i>0.5% of the total volume you intend to make. (experiment with this in conjunction with the carbomer. The proper amount of TEA is determined by the amount of carbomer. Too little and the gel will be thin and acidic and may irritate the skin, too much and the carbomer will come out of solution and lose its gelling properties.)</i></p>		
ONE OF		
<p>Isopropyl myristate.</p> <p><i>1% of the total volume you intend to make.</i></p>	<p>Eucalyptus oil.</p> <p><i>1% of the total volume you intend to make</i></p>	<p>Orange oil (not recommended due to risk of skin irritation).</p> <p><i>5% of the total volume you intend to make.</i></p>
ONE OF		
<p>Testosterone.</p> <p><i>10mg/ml of the total volume you intend to make (we've found it difficult to make higher concentrations dissolve, but if you can get it working a higher concentration testosterone gel would probably be more useful for a lot of people).</i></p>	<p>Estradiol.</p> <p><i>3mg/ml of the total volume you intend to make (adjust to taste).</i></p>	

Carbomer, triethanolamine, isopropyl myristate and essential oils can be bought as cosmetics ingredients. If your hand sanitiser is runny you may find you want to thicken it with carbomer anyway.

**Process:**

If you're using premade hand sanitiser	If you're thickening the gel yourself
<p>Dissolve the relevant hormone in the alcohol (all of the alcohol you have, which will be 1/12th of the final volume if you're using premade hand sanitiser or 8/12ths if you're not). You may need to gently heat it to encourage it to dissolve quickly. Remember that alcohol is flammable, heat it by putting the container in a bath of hot water rather than directly.</p>	
<p>Add the hand sanitiser.</p>	

<sup>10</sup> some HRT gel and hand sanitiser manufacturers use sodium hydroxide to activate their carbomer instead of triethanolamine. This is cheaper, but not by much, and it's more dangerous to fuck up with.

Add the penetration enhancer (that is, the isopropyl myristate, eucalyptus oil or sweet orange oil).	
Mix with an electric mixer. It's important that all the ingredients are completely combined, to ensure that the effectiveness of the gel is consistent.	
	Add the carbomer.
	Leave overnight for the carbomer to hydrate. This is the best way we've found to do it, it has to be really thoroughly hydrated before you add the TEA or the gel will have lumps in. leave it covered so the alcohol doesn't evaporate off.
	Add the triethanolamine and mix by hand (machine mixing may be hard enough to break some of the bonds in the gel and make it runnier) until you reach a smooth consistency.

## Spray

transdermal sprays work in the same way as gels, but they're unthickened and have much more of the penetration enhancer to ensure that it all absorbs before it dries. They need an emulsifier to make the large quantities of penetration enhancer dissolve properly with the alcohol. Because it absorbs quicker they create more of a dramatic spike and drop in hormone levels, the effects of which are not well studied. In order to suppress the body's own hormone production as effectively as gels some people find they need to split their dose into parts and apply it throughout the day. However, they are cheaper and easier to make.

## Ingredients

Alcohol – can be isopropanol or ethanol, the difference is negligible. Try to get pharmaceutical grade if possible (also called USP grade or medical grade – it means it doesn't have contaminants that could be harmful for someone to absorb). Make sure that it's 99% and not diluted. <i>45% of the total volume you intend to make.</i>
Isopropyl myristate. <i>45% of the total volume you intend to make.</i>
Polysorbate 80. <i>10% of the total volume you intend to make. It's likely that other emulsifiers could be substituted in different amounts, but we haven't tried it.</i>

ONE OF:		
Testosterone. <i>An amount calculated based on the spray bottles you intend to use.</i>	Estradiol. <i>An amount calculated based on the spray bottles you intend to use.</i>	Progesterone. <i>An amount calculated based on the spray bottles you intend to use.</i>

You'll need to check how much liquid is in each squirt of your spray bottles and add an amount of the relevant hormone calculated to produce an appropriate dose per spray. For example, we use bottles that spray 0.15ml in each pump<sup>11</sup>. We decided we wanted to make 5mg/pump testosterone, 1mg/pump estradiol and 5mg/pump progesterone, so we divided those amounts by 0.15 to determine that we needed 33.3mg/ml testosterone, 6.6mg/ml estradiol or 33.3mg/ml progesterone.

### **Process**

Simply combine all the ingredients and mix thoroughly with an electric mixer to ensure they're blended properly.

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11 determined by spraying repeatedly into a measuring beaker and dividing the number of sprays by the volume once it reached a measurable volume

## **PS**

You, personally, can change people's lives. When you feel like you're beating your head against a brick wall encountering new problems every time you try something it means you're learning new things. Being brave is a skill that you develop through practice. And furthermore, all forms of authority must be destroyed.

## APPENDIX 1: CAS numbers

Every chemical is assigned a unique number by the Chemical Abstracts Service to help people refer to them unambiguously, eg. when ordering from a chemical supplier. Here are the CAS numbers for some sex hormones:

Chemical	Typical Route of administration	CAS number
Testosterone	Any except injection	58-22-0
Estradiol	Any except injection	50-28-2
Progesterone	Any except injection	57-83-0
Dihydrotestosterone (DHT)	Transdermal	521-18-6
Tetsosterone Propionate	Injection	57-85-2
Testosterone Cypionate	Injection	58-20-8
Testosterone Enanthate	Injection	315-37-7
Estradiol Valerate	Injection, Oral	979-32-8
Estradiol Cypionate	Injection	313-06-4
Estradiol Enanthate	Injection	4956-37-0

## APPENDIX 2: sources for raws

As of 2025, these are some places you can get raw hormones from. Most sources are not entirely trustworthy, it's worth getting your raws chemically tested by an organisation like Janoshik when you order from a new supplier even though it's pretty expensive to do. Testing by just using them isn't necessarily good enough, one of the things you're testing for is contamination with manufacturing by-products, so it's possible to get raws that work but also damage peoples health.

Industrial sources:

Contact chinese chemical manufacturers through <https://made-in-china.com>

Steroid sources:

<https://dragonordnance.com>

<https://purplepandalabs.io> (yeah, the site looks dodgy as shit, but they haven't ripped us off yet)

## APPENDIX 3: sources for information

This being the information age, you shouldn't be trusting one book for all your information. Here are some other places you can go for help with DIY production.

source	notes
<a href="https://transfemscience.org">https://transfemscience.org</a>	
<a href="https://transharmreduction.org/">https://transharmreduction.org/</a>	
<a href="https://hrtcafe.net/Homebrew/">https://hrtcafe.net/Homebrew/</a>	Mostly injection-focused at time of writing.
<a href="https://reddit.com/r/estrogel">https://reddit.com/r/estrogel</a>	DIY producer community, despite the name it also covers masculinising HRT.
<a href="https://allies-site.org/blog/guides-release/">https://allies-site.org/blog/guides-release/</a>	Another guide similar to this, lots of techy opsec stuff.
<a href="https://crimethinc.com/2022/12/15/producing-transdermal-estrogen-a-do-it-yourself-guide">https://crimethinc.com/2022/12/15/producing-transdermal-estrogen-a-do-it-yourself-guide</a>	Legal considerations are from an American perspective. We think the idea of making one big \$1000 batch all in one container seems a bit risky, but diversity of tactics and all that.
<a href="https://thinksteroids.com/">https://thinksteroids.com/</a>	Comes from a bodybuilding perspective. Has a forum which may be useful for sourcing raws.

The patents covering the HRT gels provided by the NHS describe their recipes. Some relevant patent numbers are:

Patent number	subject
US8466137	Covers androgel, contains recipes with specific quantities in table 2 from which our gel recipe is largely derived
AU2005281809	A similar testosterone gel using a different penetration enhancer
US20190160077	An estradiol gel using alternative penetration enhancers, but contains the recipe for standard estrogel in table 6-2
US10098894	A more complex transdermal cream, which discusses a wider variety of alternative ingredients.

## APPENDIX 4: Blood Test Providers

These providers are in the UK. We don't know so much about other places, but we've had [Private MD Labs](#) recommended for people in the US.

<a href="#">Radox In-Clinic</a>	Testosterone, Estradiol
<a href="#">Sapphic Bison At-Home</a>	Testosterone, Estradiol, Liver Function Test
<a href="#">Radox At-Home</a>	Testosterone, Estradiol
<a href="#">OptiMale</a>	Testosterone, Estradiol, Liver Function Tests, Full Blood Count
<a href="#">One Day Tests FBC</a>	Full Blood Count
<a href="#">CliniQ Safety Bloods</a>	Liver Function, Full Blood Count (free, but only available in london)

## APPENDIX 5: The Law

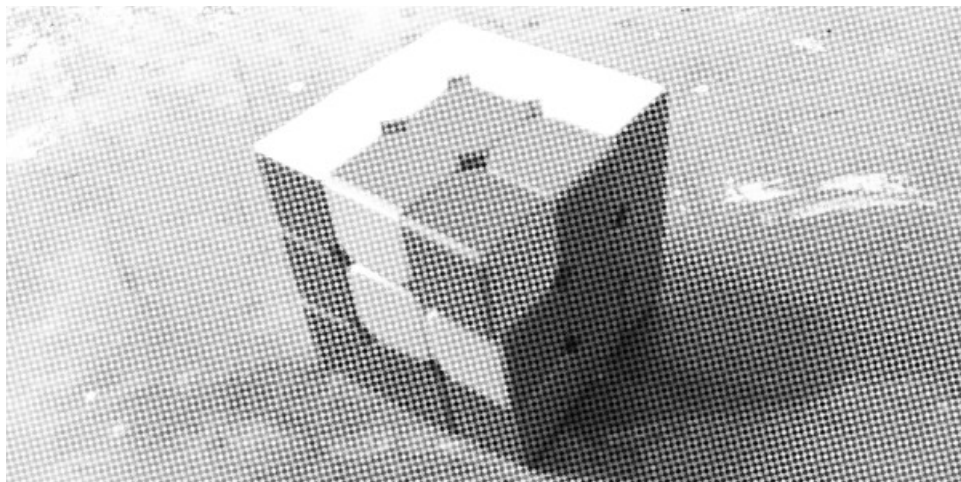
Law	Sentencing Guidelines
<a href="#">Misuse of Drugs Act 1971</a>	<a href="#">Supplying</a> <a href="#">Producing</a> <a href="#">Importing</a> <a href="#">Permitting premises to be used</a>
<a href="#">Human Medicines Regulations (part 12 chapter 2)</a>	Unknown

Actual cases: see [here](#) or [here](#) for example – the people in the first case were working at an order of magnitude above the kind of stuff we're doing, but it's hard to find examples of smaller-scale cases. We're not aware of any case of trans HRT providers in the UK getting caught yet.

## **APPENDIX 6: The Briarthorn Opsec Guide**

The guide is appended here, it can also be found at <https://notrace.how/resources/#the-briarthorn-opsec-guide>

# **The Briarthorn OpSec Guide**



## **The Briarthorn OpSec Guide**

**Original text in English**

Anonymous

2025

**Layout**

No Trace Project

[notrace.how/resources/#briarthorn](https://notrace.how/resources/#briarthorn)

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# Introduction

There's a lot of work that goes into figuring out how not to get arrested, and how to minimise the damage if you are. To try to make it easier for our comrades, we want to share the techniques we've developed while operating an illegal activist organisation. This is a guide for non-experts, but for some procedures it will help to be moderately techy or at least be working with some techy friends.

## Caveats

**DON'T TRUST US TOO MUCH.** We've put a lot of thought into this and we haven't been caught yet, but it's always possible we've just been getting lucky. Where possible, do your own research and think it through for yourself. These procedures are starting points to develop from, provided because they're a better place to start from than the usual insecure ways of doing things. We've tried to make it harder to blindly trust us by explicitly noting when there's something we don't know.

**THIS INFORMATION WILL GO OUT OF DATE.** We're writing this in 2025. The longer after that you're reading this, the more likely some details are no longer true.

**ASSUMPTIONS ABOUT WHAT THE POLICE CAN OR WILL DO ARE RELEVANT TO THE UNITED KINGDOM (UK),** because that's where we work.

And perhaps most importantly, **DON'T LET WORRYING ABOUT SECURITY STOP YOU FROM GETTING SHIT DONE!** If you get

paranoid and don't do something because it's too difficult to do perfectly safely, the surveillance state wins. Do things safely enough for the level of risk they carry, and always take *easy* opportunities to make things safer, but if you spend days setting things up perfectly

safely just to do some graffiti or something then they've won by virtue of stopping whatever other thing you could have done with all that effort.

# General Principles

There are two fundamental principles to bear in mind across all of this.

## Threat Modeling

In order to know what to do to keep yourself safe, you need to know what the realistically likely dangers are. A threat model is an idea of who's trying to stop you and what they can do, and if you're doing operational security then you need to have one. The procedures in this document are written on the assumption that you're mainly up against the UK police, and they're not willing to invest more resources into stopping you than they are any random low-to-mid-level illegal activist group (i.e. you're not doing any terrorism or anything). It also assumes that you're not doing anything very public, that most of your operations will never be reported to the police. If you're doing headline-grabbing propaganda stuff then you may face a different threat profile, for instance you don't have to keep the existence of the group secret but you might have to worry more about infiltrators. The reason we've chosen this threat model is that it's the situation we have experience with, and also that we feel more groups could do with focusing on changing the world directly ourselves rather than trying to convince the government to do it for us.

## Defense In Depth

There will always be things you overlook, and things you couldn't have known. When your defenses inevitably fail, you should have other defenses in place so that it's not a total disaster. This means that even if you trust someone completely, you still don't tell them incriminating things they don't need to know. Even if your encrypted drive is secure, you still delete things off it when you don't need them anymore. Even if you're using an encrypted

messaging app, you still use pseudonyms. When you fuck something up, it shouldn't be the end of the world.

## Procedures

This section is the bulk of the guide. It contains a set of procedures for doing various things more securely. Often they refer to each other, e.g.

part of the procedure for securely buying things from the internet is to apply the procedure for securely using the web. Each procedure has three increasingly secure versions: Acceptable, Good and Paranoid. More secure versions include doing all the things mentioned in the less secure versions as well unless otherwise specified. We've made this division so that people won't get bogged down worrying about security that's way over the top for what they're doing. As a rough guide, we feel that for crimes that don't necessarily invite police attention every time as described in the introduction, the Acceptable level is appropriate for when we're risking up to maybe six months, Good for up to a couple of years, Paranoid for up to maybe five or six years. But that's just our personal comfort levels at this particular stage in our lives, so don't take that as gospel. For crimes that do invite police attention, we'd probably move everything down one category—no custodial sentence, six months, a couple of years.

## **Going Somewhere**

### **Acceptable**

Wear a mask and nondescript clothing.

### **Good**

Leave your phone behind—the phone company knows its location at all times and keeps records for years. Pay for public transport in cash if possible. Be aware of CCTV, especially cameras that may be government- operated rather than belonging to private businesses since the police can access them more easily.

### **Paranoid**

Don't bring anything with your name on it. Possibly arrange for a comrade to alibi you if necessary.<sup>1</sup>

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<sup>1</sup>*No Trace Project (N.T.P.) note:* For this level, you may also want to take precautions to ensure you are not being followed. For more information, see our Threat Library mitigations “Surveillance detection”<sup>2</sup> and “Anti-surveillance”.<sup>3</sup>

<sup>2</sup><https://notrace.how/threat-library/mitigations/surveillance-detection.html>

<sup>3</sup><https://notrace.how/threat-library/mitigations/anti-surveillance.html>

# Using The Web

## Acceptable

Use Tor Browser. If you're not familiar with it, Tor Browser is a web browser that routes your connection through a series of other computers before it reaches the website you're connecting to. This means the website doesn't know who you are because your connection appears to come from somewhere else, unless of course you tell it who you are yourself (e.g. by signing into an account in your own name). It's easy to install and use on pretty much any computer, including smartphones. See [torproject.org](http://torproject.org).

## Good

Use Tails. If you're not familiar with it, Tails is a piece of software you put on a USB stick or SD card (see the procedure for storing digital information) that lets you boot the computer you plug it into using a secure operating system. Tails ensures all internet traffic goes through Tor, and leaves no trace on the computer of what you were doing. See [tails.net](http://tails.net).

## Paranoid

Use Tails from a public wifi network, such as in a coffee shop. This will probably involve applying the procedure for going somewhere, unless you live across the road from a coffee shop or something and can connect to the wifi from your house. Be aware of CCTV, but most businesses don't store CCTV records for too long. If you get a coffee, pay in cash. Don't make a habit of using the same place every time.

# Messaging Someone On The Internet

## Acceptable

Use Signal. If you're not familiar with it, Signal is an encrypted messaging app. It requires a phone number to sign up, but can be used on a computer as long as the account is tied to a phone. Apply the procedure for storing digital information to any device that you install Signal on. If you think you might be arrested, uninstall Signal. When you reinstall it you will have lost all your messages, this is an unavoidable consequence of the security features that prevent the police from recovering your Signal messages

from a device you've uninstalled it from. Note that the way that your Signal messages with someone are most likely to be leaked is if the police get hold of your or that person's inadequately-secured device and simply unlock it and read the messages the same way the intended recipient would. However, if that happens they won't necessarily know who the other person in the conversation is (unless you revealed who you are in one of the messages they read). See [signal.org](https://signal.org).

Other encrypted messaging platforms exist, but Signal is very popular, so firstly it's less suspicious to be using it and secondly it's been extensively tested in practice. If Signal isn't an option, we like the look of Matrix or SimpleX, but we don't have experience with them.<sup>4</sup>

## Good

Use separate Signal accounts for different purposes, so if one of them is identified as you the others may not be. You need a separate phone number for each account, so you'll need to get a SIM card, they're sold in many supermarkets (apply the procedure for buying something in person, or just apply the procedure for going somewhere and steal one). You don't have to activate the SIM card in order to receive the verification text, so don't—that will connect your bank account to it. You'll need to keep hold of the SIM card in case you lose access to your account (e.g. by having to uninstall Signal), but you should keep it hidden because if the police search your house and find it they may be able to discover and maybe even impersonate the account it's associated with. Alternatively, if you set a Signal PIN (see below) you may be able to use that to recover your account without the SIM.

Configure Signal settings to be more secure—set “who can see my number” and “who can find me by number” to nobody, set a default disappearing messages timer, turn off link previews, read

receipts and typing indicators, turn on call relaying, turn on screen lock, set a Signal PIN (use a secure alphanumeric PIN) and enable registration lock.

---

<sup>4</sup>*N.T.P. note:* We would recommend SimpleX rather than Matrix, as Matrix does not protect communication metadata as well as SimpleX does. Compared to Signal, SimpleX does not require a phone number to create an account. For more information, see AnarSec's guide “Encrypted Messaging for Anarchists”.<sup>5</sup>

<sup>5</sup><https://anarsec.guide/posts/e2ee>

Consider using Molly (molly.im). Molly is an alternative frontend for Signal. It makes it harder for someone who has your phone to get into your account, but it isn't widely-used enough to be quite sure it's well- made and safe.

## Paranoid

Instead of using a phone, have your sensitive Signal accounts on Tails using signal-cli. We won't go into detail about signal-cli because if you're technical enough to use it you'll be able to figure it out yourself. You can connect signal-desktop to the account for ease of use. Don't put the SIM in your own phone, use a burner phone (acquired with the procedures for buying something, either online or in person). Never turn the burner on at home or in a location connected to you, or in the presence of your or your comrades' phones, as the phone company will know where it is and what other phones are nearby and store that information. Once you've registered your account, get rid of the burner. Apply the procedure for storing an object for the burner and SIM. They should be stored together, as getting access to either one will reveal all the information that could be acquired from either, unless you decide to just dispose of the phone and get a new one if you need it.

Eventually, the phone company deactivates unregistered or registered but unused SIMs and allows a new one to be made with the same number. When this happens you'll no longer be able to recover your account using the SIM, and it's possible that the person who buys the new SIM will use it to register for Signal, kicking you out of your account (note that they won't gain access to your account, it'll just be lost). In order to prevent this, note when your SIM will expire and move your account to a new number before it happens. If you're getting reasonably newly made SIMs this shouldn't be more than every couple of years. You'll

need to do this even if you haven't kept the SIM card and you're just using the PIN to get back in if you lose access.

## **Using Cryptocurrency**

A detailed guide to the non-security aspects of using cryptocurrency is out of scope for this document, so this procedure is written assuming you know how to use cryptocurrency.

## Acceptable

Apply the procedure for using the web, and use monero. Monero is a privacy-focused cryptocurrency, which is important, because contrary to popular belief most cryptocurrencies are extremely traceable. For regulatory reasons it's difficult to buy monero in the UK, but you can buy other currencies and easily exchange them. Apply the procedure for storing digital information to your wallet. You can buy cryptocurrency from an onramp service or an exchange.

If the thing you want to buy can't be bought with cryptocurrencies, you can buy virtual prepaid debit cards using monero on sites like coinsbee.com (not forgetting to still apply the procedure for using the web) and use those to pay for it.

Since storing information securely leads to an increased risk of losing it, you may want to keep a record of your wallet seed. This should be stored securely itself, either as digital information or written down. Someone who gets access to it gets full access to the wallet.

## Good

Make sure you're using a local wallet rather than an exchange (but it's unlikely you can get monero on an exchange these days anyway). Access the monero network over Tor, the feather wallet has a facility for this built in (featherwallet.org). Make sure to transfer your monero between two wallets you control, so that more than one transaction has to be compromised to trace what you're spending it on. If you're buying cryptocurrency, consider buying it from a peer-to-peer exchange so it's harder to tie to your bank account.

When storing the seed, consider writing the seed words out of order, as long as you'll be able to remember how to put them back in order.

## **Paranoid**

When moving money through any kind of series of accounts, always put more in than you take out at the far end, so someone watching both ends can't guess that it's the same money because it's the same amount. Likewise don't do it all at once, leave delays between transfers.

If you're keeping the seed words written out of order, recover the wallet corresponding to the order they're written in and make some small, non- incriminating transaction with it, so if the seed is found you can make a plausible case that this is the real wallet.

## **Buying Something In Person**

### **Acceptable**

Apply the procedure for going somewhere. Pay in cash.

The Good and Paranoid versions of this procedure are just the same using the Good and Paranoid versions of the procedure for going somewhere.

## **Buying Something On The Internet**

### **Acceptable**

If it's something that's not illegal in itself, have someone who's not doing anything else illegal order it and pick it up from them. You can reimburse them in cash. Don't forget to remove the label with their address on it from the box if you're keeping it, so if your house is searched the police won't find out about this person from the label.

### **Good**

Apply the procedure for using the web and order it using the procedure for using cryptocurrency, either still to someone else's address or poste restante<sup>6</sup> in a name that you have a good fake ID for (if you can't give a valid ID the post office may refuse to give you the parcel).

There isn't a Paranoid level for this, because we don't have the experience with ordering anything that warrants that level of

security to be able to speak authoritatively on it. Anything we could say would be speculative.

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<sup>6</sup>*N.T.P. note:* Poste restante is a service where the post office holds mail until the recipient calls for it.

# Laundering Money

## Acceptable

Buy things with the money and sell them. Buy and/or sell things in a similar way with your own money to obscure it. This process is okay at a glance but won't stand up to actual investigation, and isn't practical for large quantities of money.

## Good

Using the procedure for accessing the web, buy monero with the money (see the procedure for using cryptocurrency). At this point the money should be disconnected from its source. Use the monero to buy prepaid virtual debit cards as mentioned in the procedure for using cryptocurrency. Note that although the source of the money is obscured, the fact that it came in the form of monero isn't, so it may still look suspicious.

## Paranoid

Buy monero with the money and move it between two accounts. At this point the money should be disconnected from its source. Trade the monero for cash sent to you by mail on a peer-to-peer exchange such as retoswap (retoswap.com) (using the advice in the procedure for buying something on the internet for receiving it by post securely).

## Sending Post

### Acceptable

Apply the procedure for going somewhere. Buy postage in cash. Alternate between various post offices. Follow the post office rules (e.g. on the proper way to post liquids) as far as possible to reduce the chances of your packages being opened.

## Good

Buy stamps and envelopes in cash, and post at postboxes. Alternate between various postboxes. If you need to send large items, use parcel postboxes, but if you're not in a city there might not be many to alternate between. Don't post lots of things all at once in one postbox, as this might

raise suspicions and get them opened. With stamps, be aware that the barcodes on them can't be used to trace where they were bought, but they are scanned by the sorting office so they can be used to trace at least to the sorting office of the place where something was posted from (and that's one of their purposes).

## **Paranoid**

For occasional posting, use commemorative stamps, as they don't have the barcodes on them (but posting lots of parcels with commemorative stamps in one place would be suspicious). Buy envelopes from different places so which brands of envelope you use can't be used to identify where you're going to buy them (or more likely as circumstantial evidence after the fact based on the fact you frequently went somewhere that sold those envelopes). Pick postboxes in locations such that your house isn't in the centre of all the locations you use.

## **Storing An Object**

### **Acceptable**

If your address is unlikely to be a target of investigation, just keep it in your house. If you or your housemates are at risk of arrest, or if the address is used to order things to, hide it. Small things like SD cards and SIMs are easy to hide very well, so don't just stick them behind a picture frame and call it a day, unscrew the back of something that isn't ever opened up under normal circumstances or something.

### **Good**

Even if your house isn't likely to be searched, hide it anyway. If it doesn't need to be regularly accessed, keep it at the house of someone who isn't doing anything dodgy.

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*<sup>7</sup>N.T.P. note:* We think storing things in public places can be a viable solution if done properly. For more information, see our Threat Library mitigation “Stash spot or safe house”.<sup>8</sup>

<sup>8</sup><https://notrace.how/threat-library/mitigations/stash-spot-or-safe-house.html>

Don't be tempted to hide things in public places, since a search warrant then isn't needed to get at them.<sup>7</sup> Storage units are probably a bad idea too, since they'll be connected to whoever pays for them.

## **Paranoid**

If the item is replaceable, and it's cheap and/or rarely used, consider not storing it at all and getting a new one whenever you need it. If the item can be split into parts that aren't (as) incriminating on their own, store it across several people's houses. We know of no good way to hide a unique, single item to a Paranoid standard of security, so if you find yourself needing to do so all we can recommend is minimising the time you need to do so for.

## **Storing Digital Information**

### **Acceptable**

Store it on a computer with full disk encryption. If you don't know how to set this up, see VeraCrypt ([veracrypt.fr](http://veracrypt.fr)).<sup>9</sup>

If you must store it on a smartphone, e.g. because it's a messaging app that's hard to make work on a computer or because you need access to it on the go, then set a strong password on your phone (i.e. NOT just a numeric PIN) and disable fingerprint unlocking. If you think you may be going to be arrested, turn your phone off, as some methods of unlocking it only work if it's been unlocked previously since it was turned on.

If the police believe that encrypted data they've found is relevant to an investigation and that you know the password, they can legally compel you to decrypt it. The penalty for refusing can be up to two years imprisonment, or five if it's a terrorism investigation. For this reason, don't assume that even totally secure

encryption will keep the police out if the evidence it protects is worth less than two years. There is a defense if you can cast doubt on whether there really is any encrypted data (this requires technical skills to set up) or on whether you really know the password.

---

*9N.T.P. note:* On computers (i.e. not smartphones) we recommend encrypting all your digital information using the full disk encryption system Linux Unified Key Setup (LUKS), which is available by default in most modern Linux systems, and thus does not require installing additional software such as VeraCrypt.

Using cryptpad (cryptpad.org) is okay as long as you remember to set a password, and don't share the password right next to the link as this defeats most of the point of having one.

When you no longer need the information, apply the procedure for destroying digital information.

## Good

Store it on an encrypted microSD card and keep it hidden, or store it in a VeraCrypt hidden volume on a traditional hard drive (i.e. not an SSD, and not a USB stick or SD card, as these can't hide the existence of a hidden volume reliably). If using an SD card or USB stick, note that they can sometimes fail. If the information is important, keep a backup, also encrypted. If you're using Tails (see the procedure for using the web), you can use the persistent storage to store information in this way, and it'll sometimes warn you before the device fails.<sup>[10](#)</sup>

## Paranoid

We don't have a good strategy for storing digital information with a Paranoid level of security.<sup>[11](#)</sup> We can only recommend minimising the amount of time you have to store it for, and making it as hard as possible to prove that any one person knows the password.

## Destroying Digital Information

There isn't an Acceptable level for this procedure, because overwriting is good enough to be Good but just deleting isn't good enough to be Acceptable.

## Good

When a file is deleted it's not removed from the drive, it's just marked as deleted until it's overwritten by something else being

stored in the same place. In order to delete it properly, you'll need to overwrite it with

---

<sup>10</sup>*N.T.P. note:* The Tails persistent storage uses LUKS.

<sup>11</sup>*N.T.P. note:* An additional strategy for this level is to store the devices that contain the digital information in a tamper-evident way. For more information, see our Threat Library mitigation “Tamper-evident preparation”.<sup>12</sup>

<sup>12</sup><https://notrace.how/threat-library/mitigations/tamper-evident-preparation.html>

meaningless data first. This can be achieved with tools such as sdelete and secure-delete. However, this only applies if you're using a traditional hard drive, as opposed to an SSD (almost certainly the case in a laptop), USB stick or SD card. If you're using an one of these, this approach won't work for individual files. Instead you'll need to wipe the whole thing at once, by overwriting the entire drive using a tool like DBAN or dd.

## Paranoid

Overwrite the entire drive multiple times (even if it's a traditional hard drive in case a copy has been stored somewhere for automatic backups or something). Alternatively, and this is probably overkill but quicker if you're in a hurry, physically destroy the drive it was stored on. You'll need to make sure you're actually getting at the part where the data is held. The traditional approach of drilling holes in a hard drive isn't actually that reliable, ideally you'll want intense heat or powerful magnetism.

## If You Do Get Arrested

(As a reminder, this document is based on UK police practices.)

If, despite your precautions, you do get arrested, there are still things you can do—or mostly, avoid doing—to minimise the damage. What it boils down to is: **DO NOT TALK TO THE POLICE FOR ANY REASON.**

The police are very good at tricking you into saying something incriminating or that they can use as the basis for reasonable suspicion. There are many circumstances under which talking to the police can make your life harder. There are no circumstances under which talking to the police will make your life easier (with maybe two exceptions, discussed later). If they suspect you, nothing you can possibly say will make them suspect you less. It doesn't matter how you refuse to talk to them—you can say “no

comment”, “I’m not going to answer that”, “Am I legally obliged to answer that?”, nothing at all, whatever, just don’t tell them anything. Here is a list of circumstances under which you should not answer police questions:

- If they tell you they’ll let you go quicker if you talk, or keep you longer if you don’t. This is generally not true, and they can’t keep you for too long without charging you anyway.

- If they make any kind of offer to reduce your sentence. The police don't have the authority to reduce your sentence, that's a matter for the court.
- If they offer only to charge you for a small offense if you admit to it, and drop a more serious charge. They are lying.
  - If they tell you they have enough evidence already to convict you, or that an accomplice has confessed. They are probably lying, and even if they aren't, unless a competent lawyer says otherwise you probably still stand a better chance of minimising your sentence by keeping quiet.
  - If they make polite small talk. Once you start talking it's easier for them to keep you talking. Remember, they're trained to extract information from people.
- If they ask questions whose answers are definitely not incriminating. If you answer these questions but then refuse to answer the questions which are incriminating, it looks pretty bad in court.
- If you have an alibi. Save it for your lawyer and the court. The police don't need to know your alibi, and they won't believe it. Anything you say to the police, you've effectively committed to saying in court. You don't have to commit to anything, so don't.
  - Likewise, if they're accusing you of something you can easily prove you didn't do. It's to your advantage if they try to charge you with something you can easily prove you didn't do, as it makes the rest of the charges look less credible. Save it for your lawyer and the court.
  - If they're demonstrating ignorance. It may be genuine, or they may be baiting you into showing knowledge of a topic relevant to the accusations. Either way, making fun of them isn't worth the risk.
  - **ANY OTHER CIRCUMSTANCES AT ALL**, apart from the exceptions mentioned below.

The two cases in which it might possibly be to your advantage to tell the police something are these:

- When you arrive at the station (and not before), you may want to tell them your name and address. This is because if you refuse to provide your name and address and they decide to charge you, they can keep

you locked up until the court date regardless of what you're accused of (because if they let you go they wouldn't be able to find you again). Giving false details is an offense, and they can usually check pretty easily. Note that if you do you give your address, they may go and search it.

- Under some rare circumstances, refusing to answer certain questions may be an offense in itself. A specific example of this is mentioned in the section on storing digital information—under some circumstances it may be an offense not to give up the password for encrypted data. This kind of thing doesn't come up very often, and if it is the case they'll tell you (or they should, and probably will if they actually intend to charge you with it since the court would likely require them to demonstrate that they did). Conversely though, if they tell you that you're legally obliged to answer a question, they may be lying—if at all possible verify that with your lawyer.

## Last Words

Having read all that, the thing we most want to make sure is that you're not too intimidated. Like we said at the start, if the attempt to be secure leads to not taking action, the surveillance state wins without having to do anything. If you don't feel capable of achieving the level of security that you feel you'd need for the actions you want to take, take less dangerous actions in the meantime rather than focusing exclusively on learning everything about security. Real life experience is the best way to learn.

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There's a lot of work that goes into figuring out how not to get arrested, and how to minimise the damage if you are. To try to make it easier for our comrades, we want to share the techniques we've developed while operating an illegal activist organisation. This is a guide for non-experts, but for some procedures it will help to be moderately techy or at least be working with some techy friends.



No Trace Project / No trace, no case. A collection of tools to help anarchists and other rebels **understand** the capabilities of their enemies, **undermine** surveillance efforts, and ultimately **act** without getting caught.

Depending on your context, possession of certain documents may be criminalized or attract unwanted attention. Be careful about what zines you print and where you store them.