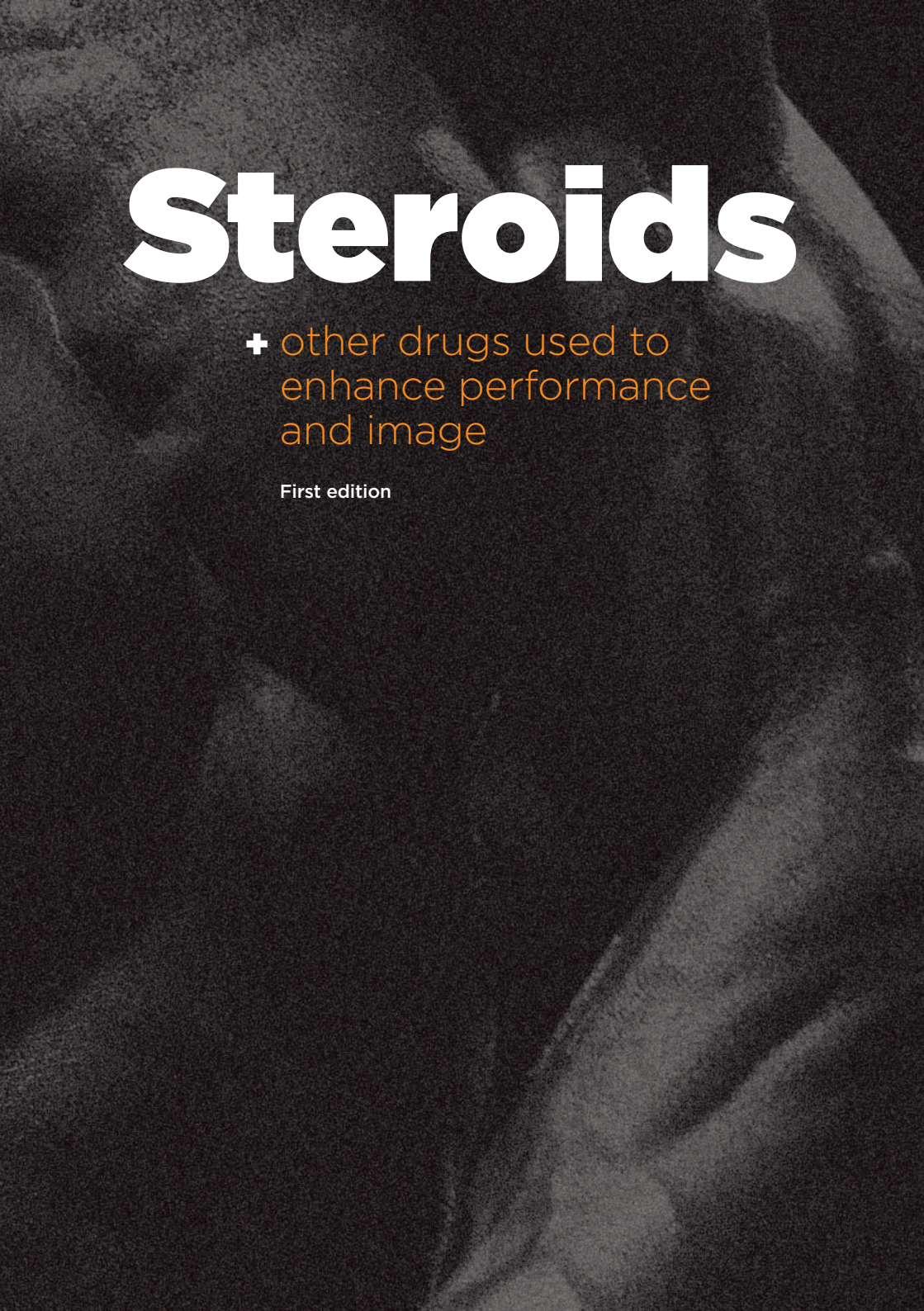

Steroids

+ other drugs used to enhance performance and image

First edition

Steroids and other drugs used to enhance performance and image

Written by John Campbell and Andrew Preston.

We are grateful all those who reviewed the book during its development, and to Katinka van de Ven and Mair Underwood for their corrections and additions to the text.

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This booklet (and other information, including William Llewelyn's comprehensive guides to anabolics and supplements) are available from **exchangesupplies.org**

Further information at
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exchangesupplies.org
HumanEnhancementDrugs.com
tinyurl.com/NSW-anabolic

This booklet is a reference guide. While every effort has been made to ensure the information is as accurate as possible, people are responsible for the drugs that they take. Drug content, dose, and sterility of drugs sourced from illicit markets is highly variable.

Introduction

This guide has been written to give easy access to factual information on anabolic steroids, peptides and other image and performance enhancing drugs, testosterone shut down and post cycle therapy.

It gives an introduction to building muscle through diet and training, before describing the drugs that are used to assist muscle development, how they work, how they are taken, the side effects, risks and dangers and what we know about reducing them.

All the information has been written as it would be expressed by health professionals to actual or potential users of performance enhancing drugs.

Under 21?

No one under the age of 21 should be taking performance enhancing or body building drugs because they can interfere with development and growth, with serious long lasting effects.

Read the sections on diet and training, and get down to the gym and train for a few years before thinking about the drugs described in this book.

By then, you will have developed muscle in a way that just isn't possible for those who start later in life, and if you do use steroids in the future the advice from the body building community is that you'll get a bigger effect because they're working on muscles that were developed without steroids before maturity.

If you want to build muscle you need to:

- Eat properly
- Train properly
- Get plenty of rest

– whether steroids are used or not.

Steroids are actually a smaller part of developing muscle than most people think. People who take anabolic steroids for medical reasons don't develop muscular physiques – because steroids do not build significant muscle on their own.

Diet

Eating the right food, at the right time, and in the right quantities is essential for muscle development.

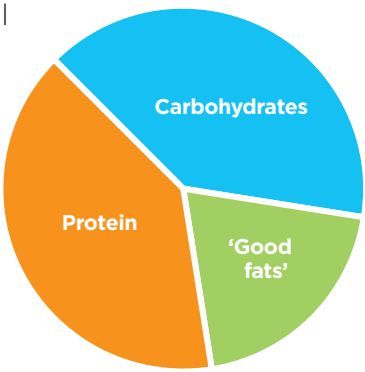
Protein, carbohydrates, and fats are all essential for muscle gain.

The calorie ratios suggested below are recommended for building muscle.

Carbohydrates – your main source of energy – 40% of total calories. Brown rice, brown pasta, wholemeal bread, sweet potatoes, oats

Protein – the building blocks of muscle – 40% of total calories. Chicken, turkey, fish, lean beef, egg whites, whey protein

'Good fats' – essential for growth and energy – 20% of total calories. Nuts, oily fish, avocado, coconut oil.



These percentages may be tweaked depending on your goals and training regime.

The correct total of calories needed each day varies from person to person, and depends on your weight, gender, and training regime.

Training

In order for muscles to grow they need to be stressed. This is done through controlled and targeted training which damages the muscle fibres.

It is the repair process after exercise that makes the muscle become bigger and stronger.

Your training programme should be designed to help you achieve your goals.

So to:

- **Bulk up** – focus on heavy resistance training
- **Reduce body fat** – focus on cardiovascular

and to **increase muscle mass, decrease body fat, and improve general fitness:** do both.

Bodybuilding

When planning training to build muscle, most favour a combination of free weights and resistance machines.

To build muscle mass lift progressively increasing weights at low reps of 6 to 12. Repeat each exercise 3 to 5 times per set.

Proper rest is also needed for muscles to repair, so it is important that recovery time for each muscle group is planned after you have worked it. Working one muscle group hard per week is ideal to ensure optimal recovery.

Training different body parts each day is known as a split routine.

Example bodybuilding split routines:

Day 1: Chest and triceps (plus cardio)
Day 2: Legs (thighs, glutes, hamstrings and calves)
Day 3: Rest
Day 4: Back and biceps (plus cardio)
Day 5: Shoulders and trapezoids (plus cardio)
Day 6: Rest
Day 7: Rest

Day 1: Chest
Day 2: Back
Day 3: Quads and calves
Day 4: Hamstrings and shoulders
Day 5: Arms and abs
Day 6: Rest
Day 7: Rest

Dose: milligrams and millilitres

It is essential that everyone using drugs to improve performance, help build muscle, or lose fat understands what 'dose' means.

You have to carefully calculate the weight (in milligrams or micrograms) of drug that is in the liquid you are injecting or tablet you are taking.

Micrograms (mcg) are the smallest unit of measurement – there are 1,000 mcg in 1 milligram (mg).

There are 1,000 milligrams in a gram (g).

Liquid is measured in millilitres (ml).

So the dose of drug is the weight of drug per ml of liquid, multiplied by the number of ml injected.

With underground lab products both the drug and/or dose is often not what it says on the bottle. Start with test doses and work up.

Don't assume that because a dose of one manufacturer's drug had little effect, that a bigger dose of the same drug from another manufacturer will be safe.

Dose: International Units

Hormone treatments and insulin are often prescribed in 'International Units' (IU) – to reduce the need to make dose calculations.

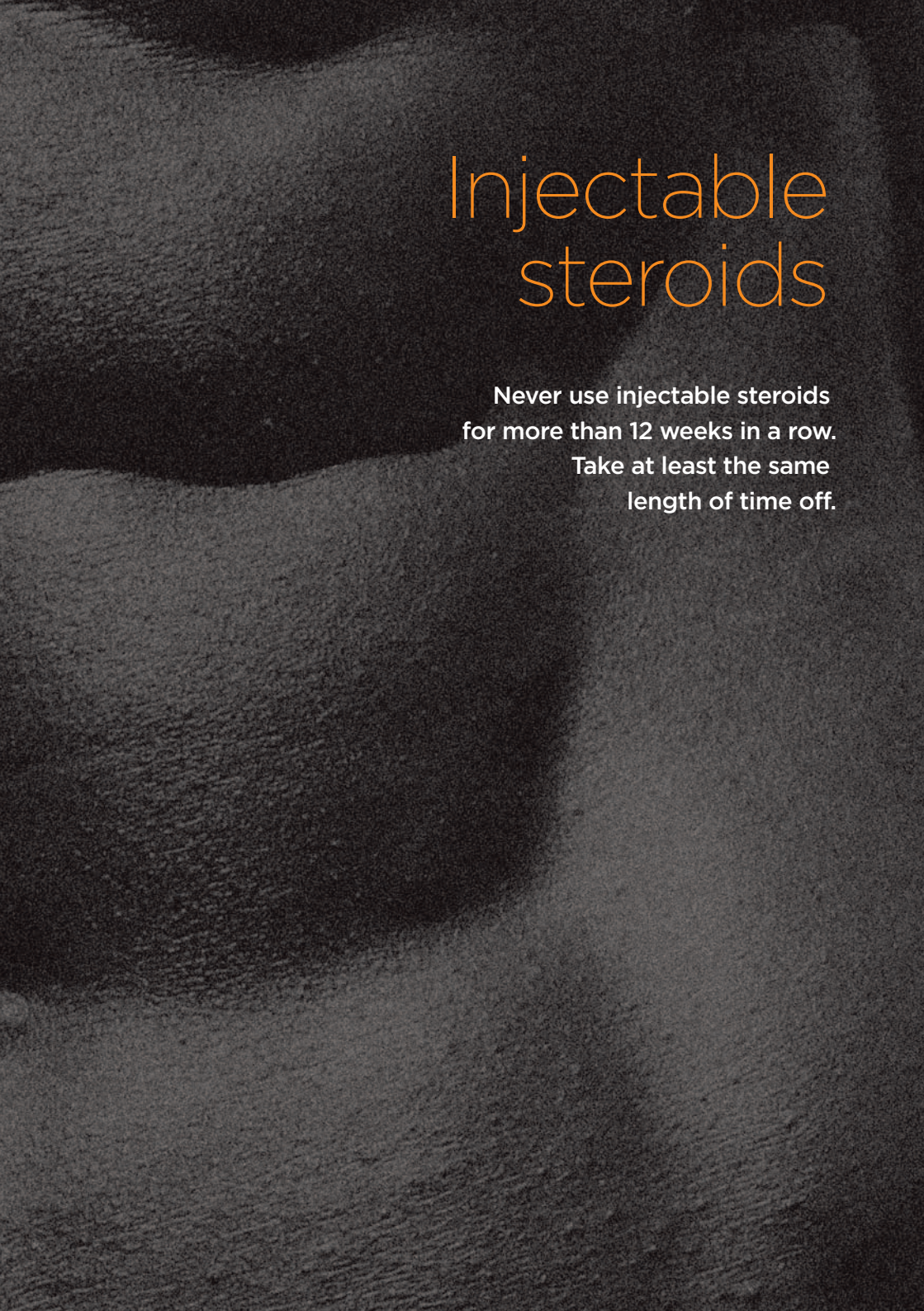
Make sure you know the total number of **International Units** your liquid contains (if you're mixing it yourself, do the sums before you add water), and then work out how many IUs you'll get **per millilitre of liquid**, and carefully measure how much you are going to inject each time.

Insulin type fixed needle syringes 27–30G are usually used for injecting hormones and insulin.

Injecting

- **Never share or reuse any injecting equipment**
- **For intramuscular injecting the needle must be long enough to reach deep into the muscle**
- **Avoid large volume injections** – stick to 3 ml barrels for oil based steroids
- **Don't inject in to the muscles you want to see grow** (this is sometimes called spot injecting): always use proper intramuscular injecting sites like the glutes, or outer quads.

32 mm blue needle is the most commonly used for intramuscular injecting of oil based steroids.



Injectable steroids

Never use injectable steroids for more than 12 weeks in a row. Take at least the same length of time off.

Injectable steroids: doses and frequency

These are typical drugs and doses used by male body builders. They are, of course, far higher than are ever prescribed to treat testosterone deficiency: side effects should be expected with these doses. You may hear, or read online, about higher recommend doses – but they are unlikely to increase anabolic effect, and will increase side effects.

For your first cycle the community recommends no more than 500 mg testosterone and no other compounds (and train hard) so you can see how your body responds, and have a better idea what it's responding to.

Boldenone Undecanoate

Brand name: Equipoise	Street name: EQ / Bold	Half life: 14 days	Aromatises: Yes

Dose: 200 – 400 mg per week (injections once every 4 – 7 days)

Drostanolone Propionate

Brand name: Masteron	Street name: Masteron / Mast	Half life: 3 days	Aromatises: No

Dose: 100 – 150 mg (injections every other day)

Methenolone Enanthate

Brand name: Primobolan	Street name: Primo	Half life: 10 days	Aromatises: No

Dose: 200 – 400 mg per week (injections once every 4 – 7 days) – often a choice for women at lower doses

Nandrolone Decanoate

Brand name: Durabolin	Street name: Deca	Half life: 8 days	Aromatises: Yes (low)

Dose: 200 – 600 mg per week (injections once every 4 – 7 days) – often a choice for women at lower doses

Stanozolol

Brand name: Winstrol	Street name: Stan / Stana	Half life: 16 – 18 hours	Aromatises: No

Dose: 50 – 100 mg daily or every other day (injections every other day)

Sustanon

Brand name: Sustanon 250 | Street name: Sus/Sus 250/300 | Half life: 15 days | Aromatises: Yes

Dose: 250 – 750 mg per week (injections once every 4 – 7 days)

Testosterone Cypionate

Brand name: N/A | Street name: Test Cyp | Half life: 12 days | Aromatises: Yes

Dose: 200 – 600 mg per week (injections once every 4 – 7 days)

Testosterone Enanthate

Brand name: N/A | Street name: Test E | Half life: 10 days | Aromatises: Yes

Dose: 200 – 600 mg per week (injections once every 4 – 7 days)

Testosterone Propionate

Brand name: N/A | Street name: Test Prop | Half life: 4 days | Aromatises: Yes

Dose: 50 – 100 mg every other day (injections every other day)

Testosterone Suspension

Brand name: N/A | Street name: N/A | Half life: 1 day | Aromatises: Yes

Dose: 50 – 100 mg daily or every other day (injections every day)

Trenbolone Acetate

Brand name: Finaject | Street name: Tren Ace | Half life: 3 days | Aromatises: No

Dose: 50 – 100 mg (injections every other day)

Trenbolone Enanthate

Brand name: N/A | Street name: Tren E | Half life: 10 days | Aromatises: No

Dose: 200 – 300 mg per week (injections once every 4 – 7 days)

Trenbolone Hexahydrobenzylcarbonate

Brand name: Parabolan | Street name: N/A | Half life: 10 Days | Aromatises: No

Dose: 152 – 228 mg per week (injections once every 4 – 7 days)

How they work

Anabolic-Androgenic Steroids (AAS) are designed to mimic natural testosterone. These synthetic hormones work by binding with the androgen receptors at cell level and triggering a process called protein synthesis. It is this construction of new proteins that is associated with increased muscle size and strength. However, for the bodybuilder there are other important effects associated with AAS use – the body will;

- Remain in a state of anabolism (muscle building and holding)
- Avoid catabolism (muscle wasting)
- Maintain a positive nitrogen balance (essential for growth)
- Increase red blood cell production, so that the blood can carry more oxygen.

However, this will only result in muscle mass if you train right, and have a proper diet.

Using dosages of steroids that are too high or for long periods of time can cause a plateau where your muscles stop growing, regardless of how good your training and diet is.

Take regular (and long) breaks for overall health and well being.

It is usually recommended that you do not use steroids for more than 8 or 12 weeks in a row. Take at least the same length of time off. The longer you use, the higher the dose, the greater the risks.

Side effects

In MEN they can also cause:

- Shut down of natural testosterone production
- Triggering of male pattern baldness
- Erectile dysfunction
- Loss (or reduction) of sex drive
- Infertility
- Increase in sex drive
- Development of breast tissue (gyno)
- Prostate enlargement

In WOMEN they can also cause:

- Changes in the reproductive system
- Birth defects (virilisation of female foetus)
- Development of a more masculine physique
- Shrinkage of the breast tissue
- Deepening of the voice and coarse skin

In YOUNG PEOPLE anabolic steroids can also cause:

- Stunting of growth
- Early physical maturation
- Joint and bone pain

Using anabolic steroids can also cause:

- Increased risk of developing heart-related complications and/or stroke
- Increases in LDL ('bad cholesterol') and decreases in HDL ('good cholesterol')
- Enlargement of the heart
- Acne
- High blood pressure
- Liver damage causing jaundice (turning yellow)
- Joint pain
- Mood swings and changes in emotions (including aggression)
- Injecting related complications e.g. abscesses, infection

For some people, using anabolic steroids causes infertility, the risks of this being permanent are greater for those who use them long term, high doses, without breaks.

Most oil based steroids have been made in underground labs. The quality of the manufacturing varies from pharmaceutical manufacturing facilities being used to make steroids for illicit sale, through to underground labs in basements.

Analysis has shown that some of these underground steroids are just vegetable oil that contains no steroid at all, some contain steroids which differ from those on the label, and most have inaccurate dose labelling.

With all underground steroids, peptides and hormones, you can't be sure what you are injecting: there is no independent quality control.

Injecting

Injecting is dangerous, and there is no way to completely remove its risk. We'd urge everyone to consider trying to set realistic goals, and achieve them through training and diet.

Steroids are usually injected, because taking tablets is less effective, and may cause liver damage. However, injecting any drug carries risks.

Abscesses, infections and other complications are all common with the injection of steroids. Sharing needles, syringes, water, vials or ampoules carries a risk of blood-borne virus transmission including hepatitis and HIV. **Share nothing.**

Make sure you have enough needles and syringes for your whole cycle – you can buy them online at exchangesupplies.org, or get them free from your local needle exchange (they may also be able to give you safer injecting advice, hepatitis B vaccination and blood testing).

Steroids do not cause localised muscle growth so don't spot inject small muscles: it won't make them bigger. The glute, outer thigh and shoulder should be the first choices. All other sites should be avoided if possible.

Always wipe the top of multi-dose vials with an alcohol swab before drawing up.

Which syringe?

3 ml syringes are used for injecting oil based anabolic steroids – syringes bigger than this contain too much fluid, which can cause damage.

These barrels are usually used for drawing up liquids that are to be injected into the muscle (called 'intra-muscular' injection).

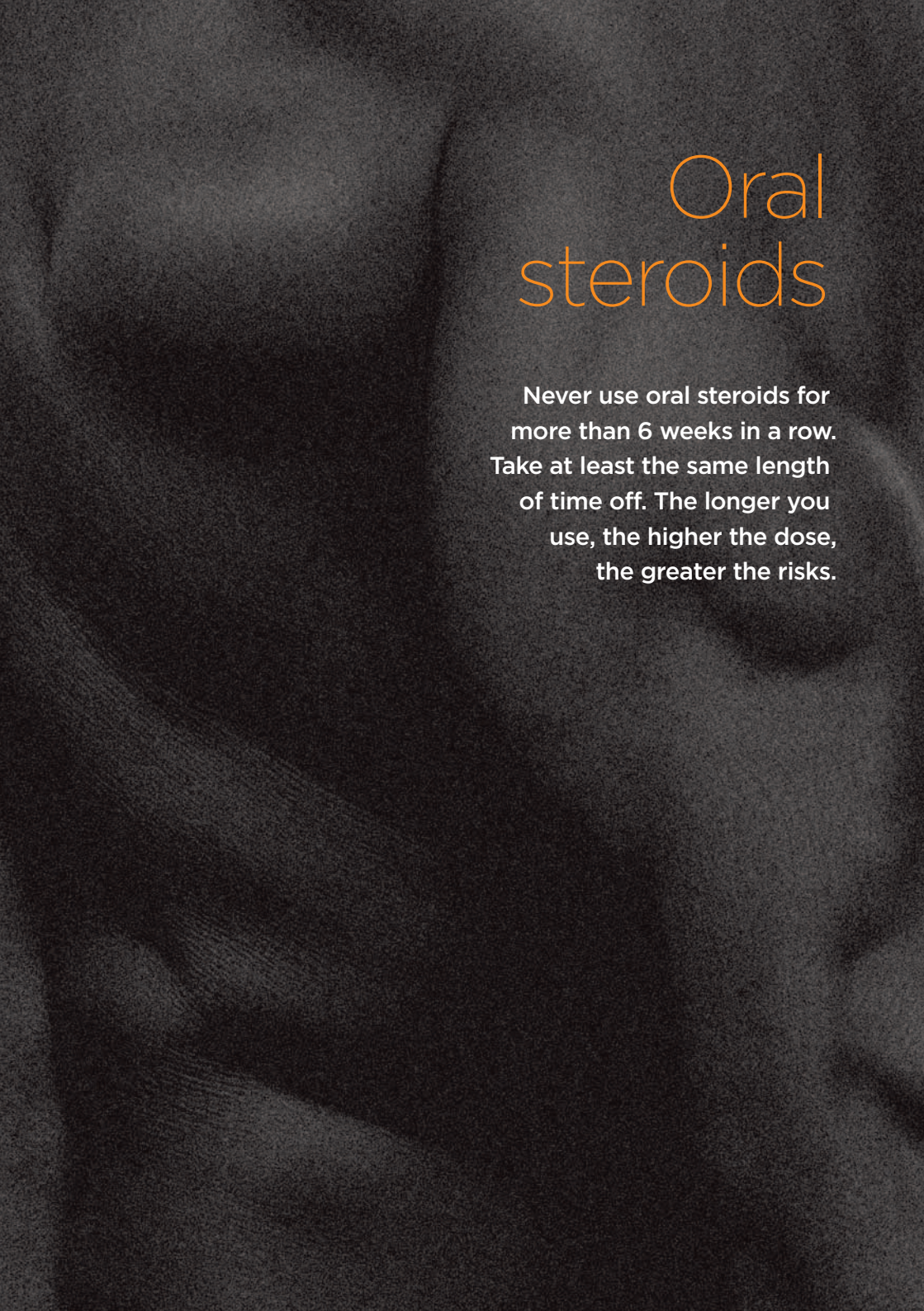
Luer lock syringes have a twist fit for the needle, which ensures the needle can't come off during injection.

Choosing the right needle

If you are injecting, the best needle to use is the shortest, thinnest one that will reach the site, and enable you to inject deep in the muscle.

Which needle?

NEEDLE SIZE	LENGTH	DIAMETER	USES
Pink 18G	40 mm / 1.5"	1.2 mm	Drawing up oil.
Green 21G	38 mm / 1.49"	0.8 mm	Drawing up oil. Can be used for glutes (upper outer section of buttock)
Blue 23G	32 mm / 1.26"	0.6 mm	Glutes (upper outer section of buttock)
Orange 25G	25 mm / 1"	0.5 mm	Can be used for IM injection of water based steroids
Fixed 1 ml syringe 27G or 29G	12 mm / 0.47"	0.4 or 0.33 mm	All subcutaneous (under the skin) injections – insulin / GH etc.



Oral steroids

Never use oral steroids for more than 6 weeks in a row. Take at least the same length of time off. The longer you use, the higher the dose, the greater the risks.

Oral steroids: doses and frequency

These are typical doses used by male body builders. They are, of course, far higher than are ever prescribed to treat testosterone deficiency: side effects should be expected with these doses.

You may hear, or read online, about higher recommended doses – but they are unlikely to increase effect, and will increase side effects.

All oral steroids are toxic to the liver, and more damaging to it than injectable steroids.

4-chlorodehydromethyltestosterone

Brand name: Turinabol | Street name: T-Bol | Half life: 7 hours | Aromatises: No

Dose: 20 – 80 mg per day

Fluoxymesterone

Brand name: Halotestin | Street name: Halo | Half life: 8 hours | Aromatises: No

Dose: 20 – 40 mg per day

Methandrostenolone, Methandienone

Brand name: Dianabol | Street name: D-Bol | Half life: 6 hours | Aromatises: Yes

Dose: 20 – 40 mg per day

Mesterolone

Brand name: Proviron | Street name: Pro V | Half life: 12 hours | Aromatises: No

Dose: 50 – 100 mg per day

Oxandrolone

Brand name: Anavar | Street name: Anavar/Var | Half life: 9 hours | Aromatises: No

Dose: 20 – 40 mg per day – often a choice for women at lower doses

Oxymetholone

Brand name: Anapolan 50 | Street name: Oxies | Half life: 8 hours | Aromatises: Yes

Dose: 50 – 100 mg per day

Stanozolol

Brand name: Winstrol | Street name: Stana | Half life: 9 hours | Aromatises: No

Dose: 20 – 50 mg per day – often a choice for women

Testosterone Undecanoate

Brand name: Andriol | Street name: N/A | Half life: 3 hours | Aromatises: Yes

Dose: 80 – 160 mg per day

Oral steroids

The use of oral steroids is common. Many inexperienced users favour these as a less intrusive method of administration and assume tablets are not as harmful as injections.

This is a common myth: oral steroids can be particularly harmful.

Some female bodybuilders prefer 'specific' orals as they have less of an androgenic (male characteristics) effect.

As with injectable steroids, without analysis you can't be sure what steroid (if any) is in the tablets or what the dose is.

One of the biggest concerns is tablets being produced by underground labs with much higher doses, which can lead to people taking dangerous doses without realising.

How they work

Oral steroids work in a similar way to injectables. However, before they can have an effect they must pass through the liver, making it work very hard. Whilst they can lead to dramatic weight gain quickly, they can also be very damaging to the liver.

Risks

Oral steroids can cause damage to the liver. It can be difficult to tell whether you have liver damage because it's an organ that you can damage without feeling any pain.

The most toxic steroids are C17 Alpha-Alkylated, often referred to simply as 17-aa steroids. This means that the drug has been altered in order for it to pass through the liver more than once.

Exactly how harmful they are is not known for sure. However, most experts in the field agree liver damage is a real risk.

If oral steroids are to be used:

- Keep your dose low
- Keep your cycle length short (6 weeks max)
- Have your liver function checked during and after cycle.

Signs of liver damage

Warning signs indicating that you may have a **serious** liver issue usually appear in the following order, with the later signs being the most serious:

- Reduced appetite
- Swollen abdomen (abs)
- Feeling sick and having a temperature
- Excessive Itchiness
- Yellow eyes or skin (jaundice)
- Very dark urine (dark amber coloured)
- Blood in your shit.

If you get any of these symptoms, stop taking steroids, and make an appointment to see a doctor.

Aromatase inhibitors (AIs) and selective oestrogen receptor modulators (SERMs)

AIs and SERMs: doses and frequency

Anastrozol (AI)

Brand name: Arimidex | Street name: N/A | Half life: 3 days

Dose: 0.5 – 1 mg every other day

Exemestane (AI)

Brand name: Aromasin | Street name: N/A | Half life: 24 hours

Dose: 12.5 – 25 mg every other day

Letrozole (AI)

Brand name: Femara | Street name: Letro | Half life: 2 days

Dose: 1.5 – 2.5 mg every other day

Tamoxifen (SERM)

Brand name: Nolvadex | Street name: Tamoxies | Half life: 5 days

Dose: 10 – 20 mg daily (also see Post Cycle Therapy)

Aromatase inhibitors and selective oestrogen receptor modulators

Aromatase inhibitors (AIs) and selective oestrogen receptor modulators (SERMs) are commonly prescribed in the treatment of breast cancer. They act to reduce oestrogen levels.

Some steroids convert to oestrogen very easily. As oestrogen is a predominantly female hormone it can lead to the development of breast tissue in male steroid users. This condition is called gynaecomastia. High oestrogen can also cause sexual dysfunction and water retention.

Preventing these side effects are the main reasons people use AIs and/or SERMs during their steroid cycle.

How they work

The main liver enzyme responsible for this conversion of testosterone into oestrogens is called 'aromatase'. People using steroids (particularly testosterone) often take an aromatase inhibitor to stop this conversion happening. However, these drugs also remove a lot (some would say an unhealthy amount) of natural oestrogen from the body.

Some try to treat their high oestrogen levels by taking tamoxifen/nolvadex. These drugs selectively block the effects of oestrogen.

It is also common for people to use these drugs as part of a Post Cycle Therapy programme (see section on PCT).

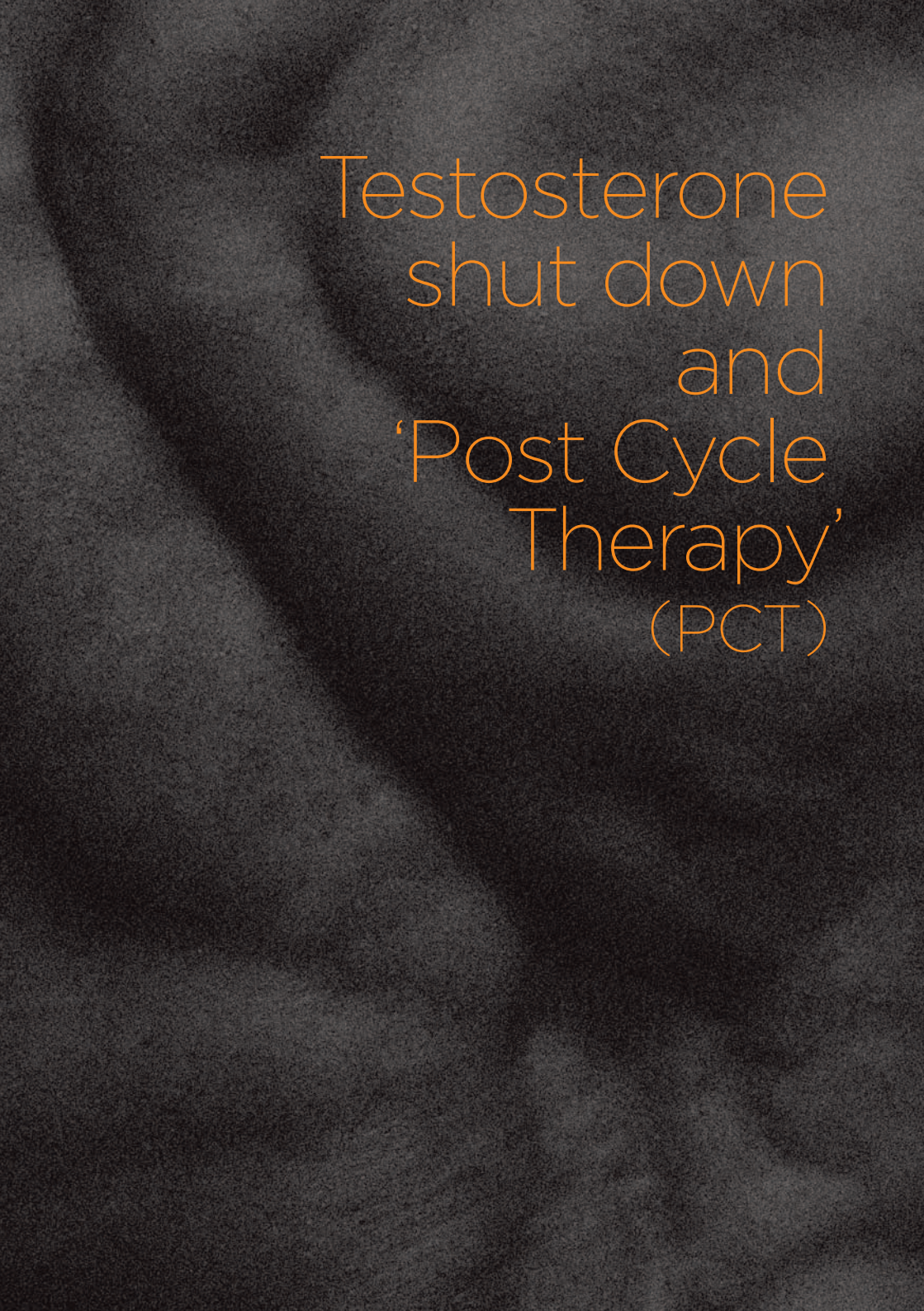
Side effects

SERMs are associated with a number of side effects while using AIs or SERMs including:

- blood clots;
- increased risk of stroke;
- loss of sex drive; and
- erectile dysfunction

however, these appear to be fairly rare and related to doses that are too high.

AIs can force oestrogen to be abnormally low. This can be a problem as both men and women need it to assist with a range of body functions, including muscle development. AIs have been shown to cause bone thinning, possibly leading to osteoporosis in later life.



Testosterone shut down and ‘Post Cycle Therapy’ (PCT)

PCT: drugs, doses, and frequency

The drugs used by body builders for Post Cycle Therapy are not licenced for this purpose in Australia, and because of this your doctor is unlikely to prescribe them for you.

Clomid: taken to stimulate the release of Luteinizing hormone (LH) and follicle-stimulating hormone (FSH)

HCG: taken to bring the testicles back to normal size and function, and to prime them for other hormones.

Tamoxifen: taken to selectively block the effect of oestrogen on the Hypothalamic-Pituitary-Testicular Axis (HPTA).

Clomid		
Brand name: N/A	Street name: N/A	Half life: 5 days
Dose: 100 mg every day for 30 days (50 mg morning, and 50 mg evening)		

Human Chorionic Gonadotropin (HCG)		
Brand name: N/A	Street name: HCG	Half life: 4 days
Dose: 2000 IU every other day for 20 days i.e. 10 doses **Note: HCG is often taken on cycle at a dose of 250 – 500 IU every 4 or 5 days**		

Tamoxifen		
Brand name: Nolvadex	Street name: Tamoxies	Half life: 5 days
Dose: 40 mg every day for 45 days (20 mg morning, and 20 mg evening)		

Post Cycle Therapy

The system that controls testosterone production and regulation is called the Hypothalamic Pituitary Testicular Axis or HPTA. Parts of the brain (hypothalamus and pituitary) are also involved in the production and regulation of testosterone.

Taking anabolic steroids for more than a few weeks will probably lead to a shutdown of your natural testosterone production – this is because the body detects that there is a high enough level, and shuts down production.

The most obvious sign that a male has stopped producing testosterone on cycle is the shrinking of the testicles.

For most people the real problems start when the steroids start to leave the system.

This can create a situation where testosterone is unnaturally low, and can last for many months.

In addition, as the body tries to correct the hormonal imbalance oestrogens increase, and this compounds the problem.

People take PCT drugs in the hope of reducing the effects of this post cycle HPTA shut down.

HPTA shutdown

This HPTA shutdown causes symptoms such as:

- feeling low;
- feeling tired;
- loss of sex drive, loss of libido;
- erectile dysfunction;
- gynecomastia; and
- muscle loss.

Steroid users use the term 'Post Cycle Crash' to describe this collection of symptoms.

Post Cycle Therapy (PCT) is a term used to describe a combination of drugs which are taken to try and 'kick start' natural testosterone production after finishing an AAS cycle.

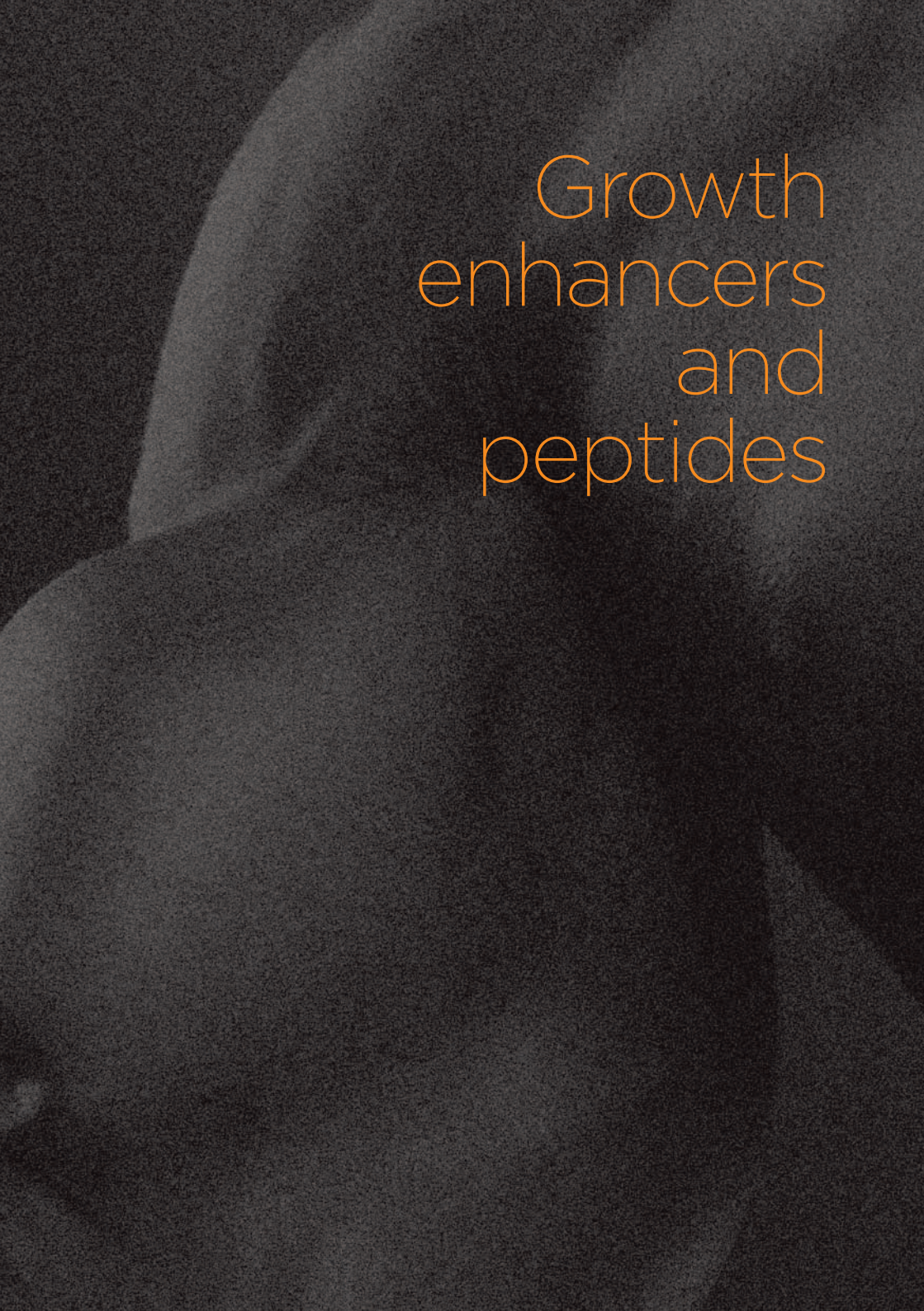
Users hope that this will quickly raise natural testosterone levels and stop all the unwanted symptoms.

However, PCT is not essential as testosterone production can return to near normal on its own after an extended time off. However, in some cases testosterone levels will not return to pre-cycle levels, whether PCT is used or not. Having blood tests post cycle is the only sure way to determine your hormone levels.

Side effects

As with all drug treatments, there can be effects other than the ones you want – the following are known side effects of PCT drugs, the side effects that occur when they're used in combination are less well understood.

- **HCG** – has the potential to inhibit testosterone production if the dose is too high, gynecomastia and water retention is also possible
- **Tamoxifen** – eye problems, light headedness, loss of libido
- **Clomid** – blurred vision or other vision disturbances, bloating.



Growth enhancers and peptides

Growth enhancers and peptides: drugs, doses and frequency

CJC 1295

Brand name: Growth Hormone Releasing Peptide	Street name: CJC	Half life: 1 hour

Dose: 100 mcg 3 times per day

Hexarelin

Brand name: Growth Hormone Releasing Peptide	Street name: Hex	Half life: 60 minutes

Dose: 100 mcg 3 times per day

HGH

Brand name: Human Growth Hormone	Street name: HGH	Half life: 30 minutes – 2 hours

Dose: 1 – 10 IU every day

IGF 1

Brand name: Insulin Like Growth Factor	Street name: IGF	Half life: 20 minutes

Dose: 40 – 120 mcg daily

IGF LR3

Brand name: Long Acting Insulin Like Growth Factor	Street name: IGF	Half life: 20 hours

Dose: 10 – 50 mcg daily

Insulin (short acting)

Brand name: Humalog	Street name: Slin	Half life: 3 – 6 hours duration

Dose: 5 IU post-workout Note: high risk of overdose death

GHPR2

Brand name: Growth Hormone Releasing Peptide	Street name: GHRP	Half life: 1 hour

Dose: 100 mcg 3 times per day

GHRP6		
Brand name: Growth Hormone Releasing Peptide	Street name: GHRP	Half life: 1 hour
Dose: 100 mcg 3 times per day		

Melanotan 2 / Afamelanotide		
Brand name: Melanotan 2	Street name: Tanning agent	Half life: 33 hours
Dose: 0.5 – 1 mg daily (loading phase) **0.5 – 1 mg twice per week** (maintenance)		

How they work

The majority of peptides are designed to either stimulate the pituitary to release HGH or to mimic HGH itself. This in turn stimulates the liver to produce Insulin type growth factor (IGF-1). The majority of benefits reported by those using for physique enhancing purposes will come from IGF-1.

Synthetic IGF-1 is a popular peptide, however, it is very short acting and requires injections throughout the day. A longer acting version LR3–IFG can be used which requires less injecting.

It is common for shorter acting peptides to be injected directly into individual muscle groups (i.e. biceps, calves) particularly post-workout. Again, the effectiveness is unproven and may increase the risk of injecting site damage.

Growth enhancers and peptides

There is a huge number of new peptides being marketed to body builders. The theory behind them is supposed to be that synthetic peptide hormones – which are chains of amino acids – will stimulate a further hormonal response in humans.

Whatever the adverts say, most of these new drugs have not been properly medically trialled, tested, or proven to build muscle or lose fat.

The largest group of synthetic peptides available to the physique enhancing market belong to the Growth Hormone Releasing Peptide (GHRP) family. They are all designed to stimulate or mimic the body's own natural growth hormone production.

The most common synthetic peptide used for image enhancing properties is Human Growth Hormone (also called HGH, or Somatropin). It has been shown to cause cell growth and regeneration in humans.

Its ability to stimulate the release of insulin type growth factor (IGF) is particularly appealing to bodybuilders.

It would be unusual for growth hormone or similar peptides to build significant muscle mass on their own. Therefore, most people wanting to build muscle choose to use them in combination with steroids or as a supplement to support fat loss whilst maintaining muscle size when dieting.

HGH is also sold as an 'age reversing supplement' because it can improve skin condition and look.

Insulin

Insulin is the chemical bridge produced by the body to allow nutrients to enter cells. It is particularly important because brain cells can only run on glucose.

When the body detects an increase in glucose levels, it produces insulin to allow it to be absorbed. When you eat carbohydrates there is a gradual build up of glucose, and a gradual build up of insulin. As the glucose is absorbed, insulin production is reduced.

There is evidence that in the post-workout phase that insulin is also involved in allowing uptake of other nutrients by muscle cells and preventing muscle breakdown during recovery. But how much it helps with muscle development is not certain.

Some bodybuilders and athletes take synthetic insulin in an attempt to maximise muscle growth and repair. However, this can be extremely dangerous because if there is not enough glucose in your system the excess insulin will pull all of it out of the blood stream, **not leaving enough for the brain to function – leading to coma and possible death.**

Taking too much insulin, and/or not having enough carbohydrates in your system can cause coma and death. As brain function reduces due to lack of glucose people are unable to work out what is happening, and take action to prevent it – so using alone is particularly dangerous.

Symptoms of insulin shock include sweating, a clammy feeling, paleness, hunger, anxiety, trembling, rapid heartbeat, fainting, weakness, irritability, change in personality or mood, and loss of consciousness. If you or others experience these symptoms drink sugary drinks, and seek urgent medical attention.

Most in the bodybuilding community recommend eating 10 grams of carbohydrates for every 1 IU of insulin, although **individual needs can vary and you may need more carbohydrates than this to ensure you do not go hypoglycemic.** Using a glucometer is recommended, and **make sure you carry some fast-acting sugars on you at all times when using insulin.**

Pre-workout administration of insulin is the most dangerous as workout intensity varies and therefore it is hard to predict how much food you will need to counter your insulin dose.

So carry simple sugars around so you don't get caught in a hypo.

Be careful if training at night: if you shoot post-workout you can't go straight to bed as you could slip into a coma. You need a post-workout meal, and possibly another meal or two before sleeping. This can lead to increased body fat, so you may need to watch your calorie count during the day if you are going to use insulin in the evening.

Which syringe?

Insulin and peptides are injected under the skin, above the fat layer using a very fine needle, from a 1 ml syringe.

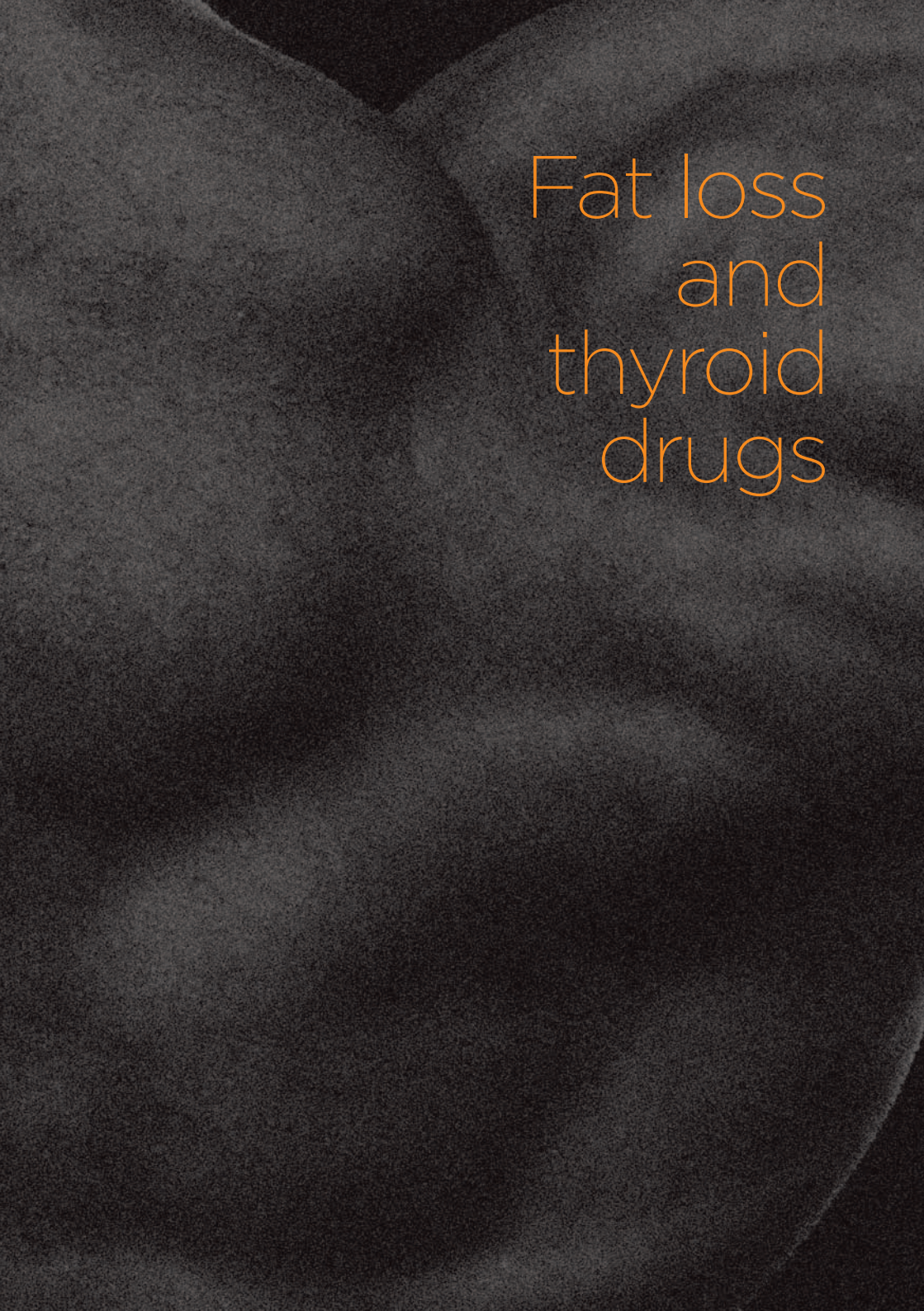
Most people use syringes which have a fixed needle, because they have the finest needles, and they deliver the most accurate doses, because there is virtually no drug at all left in the syringe after the injection.

If you want to use a separate 1 ml needle and syringe use a short yellow or orange needle.

The injection should be given at a shallow angle – pinch the skin between your thumb and forefinger, and slide the needle in. Draw back before injecting to make sure you're not in a vein.

Vary/rotate the injection site, using the abdominal area and thighs.

Do not confuse the amount of liquid and IUs. The 1 ml syringe is 100 IUs of insulin: **each line on the syringe is 1 IU.**



Fat loss and thyroid drugs

Fat loss drugs: doses, and frequency

There are three types of drugs used to reduce body fat:

- Stimulant;
- Thyroid; and
- Thermogenic.

Some drugs have effects in more than one category.

Clenbuterol		
Brand name: Clenbuterol	Street name: Clen	Half life: 1 day
Dose: 20 – 120 mcg daily		

DNP		
Brand name: 2, 4-dinitrophenol	Street name: DNP	Half life: 36 hours
Dose: 200 mg daily Note: high risk of overdose death		

Ephedrine		
Brand name: Ephedrine	Street name: N/A	Half life: 6 hours
Dose: 50 – 150 mg daily		

T3		
Brand name: Cytomel (Liothyronine)	Street name: T3	Half life: 2 days
Dose: 25 – 75 mcg daily		

T4		
Brand name: Levothyroxine	Street name: T4	Half life: 5 days
Dose: 25 – 150 mcg		

T5 (ECA Stack)		
Brand name: Ephedrine, Caffeine and Aspirin	Street name: T5	Half life: 6 hours
Dose: Ephedrine 50 mg; caffeine 200 mg; Aspirin 300 mg 2 or 3 times daily		

Reducing body fat

Muscles look larger and more defined when they are not covered with a layer of fat. A lean, shredded, cut look is what people building muscle mass want to see in the mirror.

The most effective way of keeping your body fat low is through proper diet and cardiovascular training. Unfortunately, many people looking to shed fat use quick fix fat-loss drugs as an alternative to eating and training right.

Historically, weight control drugs were mainly stimulants, however, now there are a wide variety of drugs that claim to help reduce fat. Most of these have never been properly safety tested, or medically approved for weight loss purposes.

How fat loss drugs work

Stimulants: Stimulants (particularly amphetamines) were once widely used in weight loss medicines or supplements for the dramatic increase in 'energy' they produce. This 'energy' is sustained by burning fat (or muscle) cells. Most countries now view amphetamines as too harmful and addictive to prescribe widely to treat weight loss. Caffeine, ephedrine or herbal stimulants are the main ones commonly used by bodybuilders to either lose fat or increase stimulation during workout.

How they work

Thyroid: Some bodybuilders take thyroid hormones (T3 or T4) in hope of increasing their metabolism and reducing their body fat percentage.

Consuming the synthetic hormone T3 increases the basic metabolic rate and allows fat cells to be broken down and used as energy. T4 essentially converts to T3 in the system so effects are similar but not as pronounced.

The thyroid is a sensitive and tricky thing to interfere with: long term effects are common. Periodising T3 use gives a better chance at recovery.

Thermogenic: Work by increasing the metabolic rate of the body, which in turn raises body temperature (thermogenesis).

This requires energy which, if not provided by food and drink, is drawn from fat stores – leading to weight loss.

The most commonly used thermogenic drug is Clenbuterol (Clenbuterol Hydrochloride is a bronchodilator that stimulates the Beta-2 receptors).

DNP (2,4-Dinitrophenol) is another thermogenic drug used, however, it is very dangerous with a risk of overdose death.

Risks

The possible harms associated with fat loss drugs are wide ranging.

DNP – widely considered to be the most dangerous – has been shown to cause coma and death – with over 60 deaths reported worldwide.

Thyroid hormones – excessive use can make heart problems worse, trigger angina and heart failure.

They can also cause a deregulation of natural thyroid hormones causing problems when people stop taking them.

Stimulants – the following side effects are common for all stimulant type fat loss drugs:

- dehydration
- nausea
- vomiting
- restlessness
- flushed skin
- excessive sweating
- dizziness
- headaches
- rapid breathing
- rapid or irregular heartbeat
- difficulty sleeping

and, after you stop taking them, a feeling of tiredness.

This guide to steroids and other image and performance enhancing drugs has been written to give easy access to quality information.

It covers the drugs that are used, how they work, how they are taken, the risks, dangers, and what we know about reducing potential harms.

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