

# **THE USE OF MEDICATION IN THE TREATMENT OF SEX OFFENDERS**

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## **WHAT IS IT?**

When medication is used in the treatment of sex offenders it is frequently referred to as ‘chemical castration’. This fails to distinguish between the different types of drugs that are prescribed, not all of which act by reducing blood levels of testosterone (the hormone closely linked to sexual arousal and functioning in males).

### Anti-androgens

Drugs which act by interfering directly with the actions of testosterone are typically referred to as anti-androgens (testosterone being an androgen, that is, masculinising hormone), or anti-libidinals. The primary use of these types of drug is for the treatment of prostate cancer, a type of tumour whose growth is exacerbated by the presence of testosterone. They also have other indications, however, including the treatment of hypersexuality. Cyproterone acetate, leuprorelin, triptorelin, and goserelin are the anti-androgens most typically used in the treatment of sex offenders in the UK.

Testosterone levels vary over a wide range between individuals, and it is only when blood concentrations fall below a very low threshold (or rise above a very high one) that overt changes in sexual functioning occur. The hormone’s primary effect in this respect relates to spontaneous sexual interest and behaviour. Sexual performance itself, including the ability to have erections and to engage in sexual intercourse, is impaired, but may still be preserved even in the absence of testosterone; in such cases the erectile response becomes strongly stimulus bound, that is, it depends on immediate sexual cues such as erotic imagery or tactile stimulation, and disappears once the stimulus is removed. Variations in testosterone levels do not have an immediate effect on sexual functioning – changes in blood concentrations may take weeks to manifest themselves.

### Selective serotonin reuptake inhibitors (SSRIs)

Serotonin is a neurotransmitter (that is, a chemical messenger in the brain) which is important in modulating mood as well as appetitive behaviours such as sleep, hunger and sex. Low levels of serotonin are associated with a range of conditions, including mood disorders, obsessive compulsive disorder, eating disorders, and panic attacks. Selective serotonin reuptake inhibitors, or SSRIs, increase levels of serotonin in the brain and are commonly prescribed in the treatment of depression, anxiety, and other conditions. A common side effect of the SSRIs is a negative impact on various aspects of sexual functioning, including loss of libido, erectile dysfunction, and delayed ejaculation.

SSRIs can be of benefit in the treatment of sexual disorders (and sexual offenders) through two mechanisms: their effects on sex drive and sexual function, and their ability to lessen the intensity of sexual ruminations, intrusive fantasies, sexual urges,

and apparently compulsive sexual behaviours. Fluoxetine (more commonly known as Prozac), sertraline and fluvoxamine are examples of SSRIs prescribed for sex offenders.

## **HISTORY**

Physical castration (the removal of the testes) has been used for centuries in animal husbandry as a means of controlling sexual behaviour and male aggression. It has also been employed in many cultures for religious and social purposes, and of course as a punishment. It was carried out with some frequency in North America in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, and in some European countries until the early 1970's; occasional patients are still castrated in Europe today on a voluntary basis, particularly in the Czech Republic. Follow-up studies of over 3500 castrated individuals have reported sexual recidivism rates of about 2%, but caution is necessary in their interpretation: some of these castrations related to homosexuality, repetitive indecent exposure, and mental handicap.

Medication can bring about similar effects to physical castration, with the advantages that it does not mutilate the individual, and its effects are reversible. In the 1940s, oestrogens (the primary sex hormones found in females) were first prescribed for sex offenders, and were reported to reduce substantially their levels of sexual interest and masturbatory activity. However, the associated marked side effects, particularly serious cardiovascular complications, made their use problematic. They were superseded in the 1960s by two anti-androgens, cyproterone acetate in Europe and Canada, and medroxyprogesterone (a long-acting female contraceptive also known as Depo-Provera) in the United States, and to a lesser extent Canada. Both these drugs bring about a reduction in testosterone levels to those seen following physical castration. Side effects remain a significant problem, particularly breast growth, the risk of heart disease, and various other endocrine symptoms associated with the female menopause, such as hot flushes.

Drugs that act on hormones in the brain which ultimately control testosterone production by the testes (gonadotropin releasing hormone, or GnRH , agonists) began to be prescribed for hypersexuality in the 1990s (for example, leuprorelin, triptorelin, and goserelin). They have the advantages that they can be given by injection and are of high potency, but the disadvantage of being expensive.

Case reports of the use of SSRIs with sex offenders began to appear in the early 1990s, initially in patients where there appeared to be evidence of sexual compulsivity or 'sexual addiction' (Greenberg & Bradford, 1997). The SSRIs are associated with a much milder side effect profile than the anti-androgens, with gastrointestinal symptoms such as nausea and change in bowel habit being most common, but they do not have the primary anti-libidinal effect of the anti-androgens.

## **CURRENT PRACTICE**

While emotional and psychological factors contribute to sex offending behaviour, at its root lies the pressure exerted by sexual drive. Sex drive, the characteristics of

sexual arousal, and sexual behaviour are mediated by biological mechanisms. This means that it can be influenced by physical interventions. When psychological type approaches on their own are unsuccessful in bringing about sufficient change in sexually problematic behaviour, medication may provide a useful adjunct to treatment in appropriate cases.

Some treatment protocols, particularly those in North America, are primarily risk based: they recommend the use of SSRIs where offending behaviour is less severe, and anti-androgens when the risk is greater (Bradford, 2001). In the UK more emphasis is placed on the underlying characteristics of sexual arousal. Thus, SSRIs are said to be appropriate when there is:

- marked sexual preoccupation or rumination
- a compulsive aspect to offending
- offending associated with a negative mood state
- impulsive offending

Anti-androgens are recommended for men who display:

- sexual hyperarousal (for example, frequent masturbation or high levels of sexual behaviour)
- subjective difficulty in controlling sexual arousal
- in some cases of sexual sadism where lapses may be highly dangerous

### Efficacy

Evidence concerning the use of SSRIs in the treatment of sex offenders is supportive, but not robust. Most of the reports involve small numbers of patients and short follow-up periods, there is a heavy reliance on self-report, and there is an absence of double blind control studies. Nevertheless, outcomes are generally positive, with most reporting a reduction in the frequency and intensity of sexual fantasy, urges and arousal.

Studies involving the use of anti-androgens in sex offenders typically report marked reductions in the level of sexual interest, sexual fantasy, and sexual behaviour, and recidivism rates below 5%, which is of the same order as that for physically castrated offenders. Most of these studies, however, involve only small numbers of subjects, and double blind randomised control trials are rare. A large meta-analysis of treatment outcome (where large number of research trials are combined) reported that pharmacological treatments had a much higher impact on recidivism rates than did psychological treatments on their own, replicating the findings of earlier reviews (Lösel and Schmucker, 2005). An account of an Oregon programme in which medication is incorporated as a condition of parole makes interesting reading: those who were prescribed anti-androgens did much better than those who should have been prescribed them but weren't (Maletzky, Tolan & McFarland, 2006).

## **CONCLUSION**

Overall, research studies indicate that medication can be effective in reducing risk in sex offenders, although limitations in the research mean that it is difficult to quantify

by how much. From a clinical perspective, however, medication can produce dramatic improvement, with offenders reporting great benefit from no longer being preoccupied by sexual thoughts. It can allow them to participate in psychological treatment programmes where previously they were too distracted to take part, and it means they can focus on other aspects of their day-to-day lives.

The side effect profile of the SSRIs is reasonably mild. The anti-androgens, however, are associated with significant side effects, and their use must be closely monitored through regular blood tests; the GnRH agonists in addition require periodic bone scans to assess for decreases in bone density. This means they should not be prescribed lightly.

Pharmacological treatment for sex offenders should not be seen as a cure. Medication is most effective when it is an adjunct to psychological treatment, not a substitute for it.

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