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**The pharmacologic treatment of problematic sexual interests, paraphilic disorders and sexual preoccupation in adult men who have committed a sexual offence**

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**Abstract**

This paper provides an international perspective on the use of medications to treat problematic sexual interests, paraphilic disorders and sexual preoccupation in men who have committed a sexual offence. Experts from Canada, Czech Republic (CR), Russia, United Kingdom (UK), and the United States of America (US) met in Prague, CR in May 2017 to review and compare their treatment approaches. This report is a summary of their discussions, including empirical data from CR and Russia which have not previously been published in the English language. All participants agreed that continuing international collaboration would be very useful for the development of ethical international prescribing guidelines, as well as pooling data from studies on the efficacy and utility of pharmacological and other biological treatments for people who have committed sexual offences.

**Keywords:** anti-androgen; sexual offending; treatment effectiveness; paraphilic disorder; selective serotonin uptake inhibitors (SSRIs)

## Introduction

Sexual thoughts or behaviors which can cause harm to self and/or others fall into three categories. The first category includes adults with a sexual interest in anomalous sexual targets (such as non-human animals or children), or atypical sexual behaviors (such as voyeuristic or sadistic activities). These types of sexual interest are classified as paraphilias and/or paraphilic disorders in the latest edition of the International Classification of Diseases (ICD-11, WHO, 2018) and the Diagnostic and Statistical Manual of Mental Disorders (DSM-5, American Psychiatric Association, 2013). To be diagnosed as a paraphilic disorder, the sexual interest must persist for at least six months and be accompanied by clinically significant distress or functional impairment, or have been acted upon (DSM-5, p. 698). Functional impairment may include interference with healthy sexual behavior: for example, the paraphilic disorder of Sexual Sadism may impair a person's capacity to maintain a fulfilling sexual and emotional relationship with a consenting partner. Alternatively, paraphilic disorders may create emotional distress, a sense of isolation, and feelings of stigma and shame for the individual concerned (Levenson & Grady, 2017). If acted upon, many paraphilic interests have the potential to cause harm to self or others, including the commission of sexual offences.

A second area of problematic sexuality relates to excessive sexual thought content, which has been termed sexual preoccupation or hypersexual cognition. Sexual preoccupation has been described by Mann, Hanson and Thornton (2010) as "an abnormally intense interest in sex that dominates psychological functioning" (p.198). It has been described as a condition in which unwanted sexual thoughts "fill one's headspace, leaving little room for anything else" (Lievesley, Elliott, Winder, Norman & Kaul, 2014). Sexual preoccupation can present as an obsessive-compulsive condition, in which the individual struggles against unwanted and intrusive sexual thoughts (Kalichman et al, 1994). This has been likened to a song being played loudly and repeatedly, drowning out all other sounds (Winder, 2018).

The third category of problematic sexual functioning has been described as engagement in an excessive number of impersonal sexual acts (Langstrom et al, 2006). This engagement in excessive sexual behaviors was first labelled as "hypersexual" by Krafft-Ebing in 1905. Further work was conducted on

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4 hypersexuality by Kinsey, Pomeroy and Martin (1948), who performed studies of  
5 hypersexual behavior in the general population. They reported that 7.6% of their  
6 male sample (n=14,083) regularly had a total sexual outlet (TSO) of seven or more  
7 orgasms per week, which they designated as statistically 'high'. More recent research  
8 has found this figure to be increasing: 12.1% of a community male sample (n=8718)  
9 had a TSO of at least 7.0 (Klein, Schmidt, Turner & Briken, 2015). Some have argued  
10 that frequency of intimate or impersonal sexual activity should not be clinically  
11 concerning in and of itself, provided the people involved are consenting (Fedoroff,  
12 2016). However, relatively high or low frequencies of sexual activity, including  
13 impersonal sexual behavior in particular, may seem problematic for an individual  
14 patient.  
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23 These three aspects of problematic sexual functioning (deviant sexual interest,  
24 hypersexual cognition, and hypersexual behavior) each represent potential ways to  
25 understand individuals who have committed a sexual offence, or who are concerned  
26 that they may do so. They are each considered problematic since they may be  
27 associated with distress in self or others, functional impairment, and/or the  
28 commission of sexual crimes. It should be noted that the DSM-5 does not list  
29 "hypersexuality" as a disorder. The Canadian author in this paper (PF) reframes  
30 complaints of this type as "sexual frustration", i.e. not inherently pathological, and  
31 treatable via facilitation of consensual sexual activities. Nevertheless, the other  
32 authors of this paper consider the concept to be a useful heuristic that identifies a  
33 clear treatment target.  
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43 Problematic sexual behaviors are linked to a number of deleterious consequences,  
44 including increased risk of sexually transmitted infections (Yoon et al., 2016),  
45 physical injuries (Carnes, 1991), job loss (Paunović & Hallberg, 2014), financial losses  
46 (Reid et al., 2012), interpersonal problems (Winder et al, 2014; 2017; Lievesley et al, ,  
47 2014), breakdown of relationships (Paunović & Hallberg, 2014), feelings of social and  
48 emotional isolation (Winder, 2017), depression (Walton et al, 2017), increased anxiety  
49 (Walton et al, 2017), substance abuse (Opitz, Tsytsarev, & Froh, 2009), legal penalties  
50 for sexual harassment (Reid, Carpenter, & Lloyd, 2009) and sexual offense  
51 recidivism (Hanson & Morton-Bourgon, 2005). Sexual preoccupation has also been  
52 suggested as a factor in treatment ineffectiveness for people who have committed a  
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4 sexual offence (Grubin, 2018), causing interference in their capacity to focus and  
5 engage in psychological treatment (Winder et al, 2017).  
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9 It is important to distinguish between genetics, gender, sexual orientation, sexual  
10 drive and sexual interests, as each of these has implications for understanding the  
11 nature of the problem and its treatment. In treatment centres that have not found it  
12 possible for patients to change unwanted sexual interests (e.g., attraction to children  
13 or genital exhibitionism), there are forms of therapy which may facilitate acceptance  
14 of arousal patterns that they feel unable to control, such as compassion-focused  
15 therapy (Gilbert, 2014). Likewise, medications may help reduce unwanted sexual  
16 urges which have not been controllable otherwise for patients currently receiving  
17 psychotherapeutic treatment, as well as those who have not completed treatment.  
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### 25 **Medication to manage problematic sexual functioning**

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27 Cognitive-behavioral therapy (CBT) has been the main modality of  
28 psychotherapeutic treatment for people convicted of sexual offences in the UK since  
29 the 1990s (Lievesley et al, 2013). Systematic use of medication only began to emerge  
30 in the early 2000s, including a program of voluntary medication at HMP Whatton,  
31 Nottinghamshire since 2009 (Winder et al, 2014). In both the US (Hanson et al, 2002)  
32 and CR (Weiss, 2017), CBT remains the primary psychotherapeutic approach for  
33 people convicted of sexual offences. In Canada, psychotherapeutic treatment for sex  
34 offenders has been augmented with medications (Guay, 2009), following the  
35 Marques study that suggested CBT alone was ineffective in the treatment of  
36 incarcerated sex offenders (Marques 2005; Fedoroff & Marshall, 2010). In Russia,  
37 medication remains the primary means of treating people with sexual convictions  
38 (Kamenskov, 11 October 2018, personal communication), although other means  
39 (such as occupational therapy and counselling) may also be employed.  
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50 Medication treatment for sexual offenders is voluntary in the majority of countries.  
51 In Poland, however, pharmacological treatment may be mandated by court order for  
52 anyone found guilty of having sexually abused a child under the age of 15 years  
53 (McAlinden, 2012). In some European countries, pharmacological treatment can be  
54 administered as a formal condition of parole (Turner, Petermann, Harrison, Krueger  
55 & Briken, 2017). In Canada, while the courts are not permitted to prescribe  
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4 medication, courts may set conditions requiring an individual to comply with the  
5 treatment recommendations of his physician.  
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9 The available evidence suggests that medication treatment can be effective for  
10 people who have committed sexual offences, but there are differences of opinion  
11 within and between countries concerning the definition of efficacy, and how it  
12 should be determined. The use of medication for treating people convicted of sexual  
13 offences at all has been criticized as 'medicalizing' sexual offending, thereby  
14 absolving perpetrators of sexual crime of responsibility (Weston, 2018). Important  
15 research problems have included low base rates of sexual reoffending, the ethical  
16 difficulties involved in conducting double-blind studies, and the amount of time  
17 necessary to conduct prospective treatment evaluations. The efficacy of treatments  
18 for sex offenders may be assessed in dimensions beyond the reduction of sexual  
19 recidivism, including deviant or problematic sexual thinking, hypersexual cognition,  
20 treatment compliance, and patient wellbeing. The latter should encompass both the  
21 wellbeing of the patient and the putative impact on anyone affected by the patient's  
22 actions. The consideration of "wellbeing" in this broader fashion leads to a richer  
23 evidence base on which to assess the effectiveness of medication treatment.  
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### 35 **Clinical criteria and prescribing practice**

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37 The three classes of medications most often prescribed for problematic sexual  
38 behavior include the selective serotonin reuptake inhibitors (SSRIs) and two types of  
39 testosterone-lowering agents; the anti-androgens and the gonadotropin releasing  
40 hormone (GnRH) agonists. Drugs such as the antipsychotics, tricyclic  
41 antidepressants, anticonvulsants, lithium, buspirone, naltrexone and amphetamines  
42 have sometimes been used, but the evidence base for them is small and their efficacy  
43 inconsistent (Thibaut, 2010).  
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51 The mode of action of SSRIs to manage problematic sexual arousal and behavior is  
52 unclear, and it may vary among individuals. Similar to the effects seen in obsessive  
53 compulsive disorder, the SSRIs can reduce the frequency and intensity of fantasy,  
54 rumination and compulsive behavior in patients with psychosexual disorders. They  
55 may also stabilize mood, reduce impulsivity, and decrease sexual drive (Greenberg,  
56 2007). Anti-androgens and GnRH agonists both reduce testosterone to pre-pubertal  
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4 levels, leading to reduction or elimination of sexual drive and interest, although they  
5 act through different mechanisms. The GnRH agonists reduce pituitary  
6 gonadotropic hormones, are more potent, and have fewer side effects. The side effect  
7 profile (discussed later in this paper) needs to be balanced with the goals of  
8 treatment, including reduction in reoffending risk and improvement in wellbeing.  
9 Testosterone-lowering medications are used primarily to treat men with prostate  
10 cancer, and many physicians are unfamiliar with their use for the purpose of  
11 controlling sexual drive, and reluctant to prescribe them for this reason.  
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19 A variety of articles have been published in recent years which provide  
20 recommendations for the prescription of medications for problematic sexual  
21 behavior, including which patients are most appropriate for consideration of this  
22 treatment, as well as specific indications and dosages (Garcia, 2013; Holoyda, 2016;  
23 Turner, 2018; Assumpcao, 2014; Murphy, Bradford & Fedoroff, 2014). The most  
24 comprehensive review of pharmacologic treatment for paraphilic disorders was  
25 published almost a decade ago (WFSBP, 2010), and are currently undergoing  
26 revision. The 2010 WFSBP guidelines conclude that "...little is known about which  
27 treatments are most effective, for which offenders, over what duration, or in what  
28 combination" (p. 644). "The guidelines propose a hierarchical treatment protocol in  
29 which treatment is largely based on risk, and progresses from psychotherapy  
30 (offered at all stages) to an ultimate stage where the paraphilic disorder is  
31 considered "catastrophic" (i.e., can result in serious injury or death). At this most  
32 severe stage, the combination of a GnRH agonist with an antiandrogen and/or SSRI  
33 is recommended. It should be noted that the WFSBP guidelines indicate that  
34 paraphilias should be considered "chronic disorders," and that "sexual orientation  
35 will not change during treatment" (p. 648). However, the view that paraphilias are  
36 necessarily chronic and that paraphilias are "orientations" has been challenged  
37 (Fedoroff, 2018).  
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51 While not specifically mentioned, the WFSBP guidelines appear to follow a "risk,  
52 needs, responsivity" (RNR) paradigm, in which the intensity of treatment is  
53 increased as the apparent risk of sexual recidivism increases. This is described in a  
54 table that grades paraphilic severity from one to six depending on victim impact,  
55 and links treatment to level of paraphilic severity, starting with psychotherapeutic  
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4 treatment alone. However, many therapists consider LHRH agonists preferable to  
5 anti-androgens whenever a testosterone lowering medication is indicated – their side  
6 effect profile appears to be relatively milder, and their effect more consistent than  
7 oral anti-androgens. LHRH agonists are only available by intramuscular injection,  
8 while anti-androgens are available in oral and intramuscular formulations.  
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14 The Sexual Behaviours Clinic (SBC) protocol at the Royal Ottawa Mental Health  
15 Centre in Canada, developed by Fedoroff and team, does not adhere to the WFSBP  
16 guidelines and is more patient-oriented. Patients are presented with a range of  
17 treatment options and given the choice about which treatment intervention they will  
18 receive. This is done in an educational manner, with emphasis on consent and  
19 improvement in the patients' lives, including their sex lives. Patients are told that the  
20 suppression of sexual drive induced by anti-androgens and GnRH analogues is  
21 reversible, and that treatment with these medications is only temporary, while  
22 working in conjunction with the treatment team that helps them to normalize their  
23 lives, including their sexual interests. SSRIs are never used in the SBC to suppress  
24 sexual drive, since this can be done more effectively with antiandrogens and GnRH  
25 analogues. In addition, SSRI medications are associated with inhibited orgasm in a  
26 dose-dependent fashion (Clayton, 2014). When used at the doses recommended by  
27 the WFSBP guidelines, there is the danger that a patient may resort to paraphilic  
28 fantasy or behavior in order to facilitate orgasm. This is counterproductive to the  
29 goal of treatment, which is to replace paraphilic interests with sexual fantasies and  
30 behaviors that do not cause distress or impairment, and do not increase the risk of  
31 criminal activity or harm to self or others (Murphy et al, 2014; Fedoroff, 2016). In  
32 addition, the SBC conceptualizes paraphilic disorders as being based in problematic  
33 sexual interests that can be modified, as opposed to the WFSBP's assumption that  
34 they are immutable "orientations" (Fedoroff, 2018).  
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51 In addition to the WFSBP and SBC models, a third medication treatment model is  
52 followed by the British Association of Psychopharmacology (BAP) in the UK, which  
53 focuses on medical indication rather than risk (Grubin et al, in preparation):  
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- 55 • SSRIs are recommended as an initial intervention when individuals report  
56 high levels of preoccupation, rumination or impulsive behavior, or when  
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4 problematic sexual behavior appears to be associated with dysfunctional  
5 mood states;

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7 • Anti-androgens and GnRH agonists are prescribed as the initial intervention  
8 when the primary indication is hypersexual behavior, or when the individual  
9 subjectively describes difficulty in managing his or her sexual drive.  
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13 Thus, in the UK protocol, even the most 'high risk' individual with a sexual  
14 conviction may be prescribed an SSRI at the start of treatment, while an anti-  
15 androgen or GnRH agonist may be indicated in a 'low risk' individual presenting  
16 with hypersexual behavior that is causing distress. The UK protocol, like the SBC,  
17 gives patients the choice of medication once the effects and side effects are  
18 explained. While the issues associated with SSRIs noted by the SBC are recognised,  
19 the UK experience is that their milder side effect profile tips the balance in their  
20 favor; for this reason, many patients opt for them over hormonal treatment.  
21 Evaluations of the UK protocol have found SSRIs to be effective and well tolerated,  
22 with typical dosages commencing at 20 mg of fluoxetine, increasing to 40 - 60 mg  
23 daily (Winder et al, 2014; 2017).  
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33 The WFSBP guidelines are generally followed in the Czech Republic (CR), although  
34 Czech sexologists strictly differentiate between paraphilic and nonparaphilic service  
35 users. This diagnosis is established based on sexological, psychiatric, and  
36 psychological assessments including penile plethysmography. In agreement with the  
37 WFSBP, paraphilic orientation is considered to be stable and life-long, resulting from  
38 congenital or early developmental conditions. The goals of treatment include  
39 reduction of sexual drive using anti-androgens or GnRH agonists as appropriate, as  
40 well as fostering alternative ways to meet sexual needs using socially acceptable  
41 forms of sexual behavior. Voluntary surgical castration maybe offered to patients  
42 under strictly controlled conditions (Weiss, 2017).  
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### 52 **Is pharmacological treatment effective?**

53 The most recent Cochrane review (Khan, Ferriter, Huband, Powney, Dennis &  
54 Duggan, 2015) examined the effectiveness of pharmacological interventions for  
55 people who have committed a sexual offence. Their review outlined only seven  
56 small trials, mainly from the US and all published more than 20 years ago, with no  
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4 large-scale or controlled studies included. Grubin (2006) had previously attempted a  
5 randomised controlled trial to evaluate the effectiveness of pharmacological  
6 interventions, but because the prison service was just commencing its treatment  
7 programme for offenders with problematic arousal, the study was unable to attract a  
8 sufficient sample size and had to be discontinued. Winder, Norman, Lievesley and  
9 Kaul (2018) have presented findings from an unmatched control study of the  
10 effectiveness of SSRIs and anti-androgens on 247 prisoners serving custodial  
11 sentences for a sexual offence. Statistically significant reductions were demonstrated  
12 for the SSRIs both pre- and post-medication, while the control group did not  
13 demonstrate a statistical reduction. However, there were methodological difficulties  
14 with the control group (see Winder et al, in preparation). A randomised controlled  
15 trial would be a helpful next step in building upon the Cochrane review, examining  
16 the evidence for each type of medication in reducing problematic sexual arousal,  
17 both statistically and clinically. An important issue in all effectiveness studies is the  
18 outcome measure used. In Winder et al (2018), outcome measures included the  
19 Sexual Compulsivity Scale (Kalichman et al, 1994), the Warwick Edinburgh Mental  
20 Wellbeing Scale (WEMWBS; Stewart-Brown & Janmohamed, 2008) and clinical  
21 measures developed by Grubin and others (2008) concerning masturbation, sexual  
22 preoccupation and ability to distract self from sexual thoughts.  
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### 37 **How can effectiveness be assessed?**

38 In Russia, studies were conducted by Vvedensky et al (2011) on 80 adult males who  
39 had committed sexual offences and had been sentenced by court order to  
40 compulsory treatment. All participants had been admitted as sufficiently severely  
41 mentally disordered as to be classified as legally certifiable. In this regard, 39 of the  
42 participants were also diagnosed with paranoid schizophrenia, 23 with organic  
43 personality disorder and 18 with an intellectual disability. These mental disorders  
44 were in most cases combined with alcohol or drug dependence. Two groups of  
45 patients were identified, including one which comprised 52 patients with paraphilias  
46 (25 with pedophilia and 27 with multiple deviant sexual preferences), and a second  
47 group of 28 patients who were non-paraphilic, but had been diagnosed with  
48 hypersexual disorder. All patients had been receiving ten years of complex  
49 psychotropic medication treatment based on their individual diagnoses, including  
50 antidepressant, mood-stabilizing, and/or antipsychotic drug classes. Specific agents  
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4 included SSRIs, lithium, carbamazepine, zuclopenthixol, amisulpride, risperidone,  
5 and/or pericyazine. All patients received testosterone-lowering medication to reduce  
6 sexual drive, including an average biweekly intramuscular dose of 300mg of  
7 Cyproterone Acetate (Androcur depot). Side effects in the first month included  
8 tiredness, apathy, drowsiness, a feeling of lack of air, and hot flushes for  
9 approximately a third of patients. Reported side effects after one to three months  
10 included depression, anxiety, nervousness and agitation in approximately 15% of  
11 participants. Gynecomastia appeared in 8.75% after six months of treatment. After  
12 eight months of treatment, metabolic and alimentary disorders were reported in just  
13 under a quarter of participants.  
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22 In the first group of paraphilic patients, treatment led to improvement in the mental  
23 and psychosexual state of 63.5%, while only 50% of patients in the second group of  
24 hypersexual patients showed similar improvement. In the paraphilic group, 75% had  
25 significant reactions on the polygraph to questions regarding abnormal fantasies or  
26 their specific offences at baseline, decreasing to 46% when tested again after two to  
27 six years. Improvements were also noted in both groups on psychometric testing,  
28 with 55.6% of paraphilic patients and 44% of hypersexual patients improved,  
29 respectively. These improvements were characterized by more positive self-  
30 perception, greater self-identification with the image of "being a man" a more  
31 differentiated female gender role, more androgynous gender-role behavior, and  
32 more cooperative personality traits. These results indicate that psychophysiological  
33 and psychological methods can assist in assessing the effectiveness of  
34 pharmacological treatment for individuals convicted of sexual offences.  
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### 45 **Castration**

46 While the use of testosterone-lowering medications is sometimes referred to as  
47 "chemical castration," this term is inappropriate since the effects are temporary and  
48 vary according to type of medicine and dosage used. Surgical castration (bilateral  
49 orchiectomy) is an irreversible procedure involving the removal of the testes or  
50 testicular parenchyma, leading to a reduction in the level of circulating sex  
51 hormones, and subsequent diminution of libido (Zvřina et al., 1991). The practice of  
52 surgical castration raises important ethical and legal questions (e.g. van der Meer,  
53 2014; Stojanovsky, 2011). For example, opponents of surgical castration question the  
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4 extent to which people can voluntarily submit to this irreversible procedure (Heim &  
5 Hursch, 1979). Advocates emphasise the proven efficacy of the procedure, the fact  
6 that it is a logical voluntary treatment choice for many patients and their caregivers,  
7 and that it provides patients with better behavioral control and the possibility of  
8 greater independence from the healthcare system since there is no need for  
9 continued pharmacologic treatment to lower testosterone (Krueger, 2009).  
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### 15 *Castration in the Czech Republic*

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17 The Czech Republic (CR) is one of the few countries where voluntary surgical  
18 castration can be offered to a patient under strictly controlled conditions, and only  
19 by patient request. The procedure is very rarely utilised and is kept as a voluntary  
20 option mainly for patients for whom other medical therapy is contraindicated. Since  
21 2012, only two patients with paraphilic disorders have undergone surgical castration  
22 in the CR (Weiss, 2017). The more frequent previous usage of surgical castration in  
23 the CR, together with questions from the European Committee for the Prevention of  
24 Torture (CPT, 2009), prompted a retrospective study by Zvěřina, Weiss and Holly  
25 (2014) which has never before been presented in the English language literature.  
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34 This study focused on the effectiveness and impact of surgical castration on patients'  
35 well-being, and surveyed doctors and patients from all inpatient and outpatient  
36 departments in the CR which provide sexological treatment. Sexologists reported  
37 through structured interviews on the psychological health issues and sexual  
38 recidivism of their patients. Patients filled out a survey questionnaire which focused  
39 on a retrospective assessment of their post-castration adjustment. The questionnaire  
40 asked patients anonymously about the perceived utility and voluntariness of the  
41 procedure, together with subjective ratings of patients' somatic/psychological states  
42 following castration. The responses of doctors concerning 50 castrated individuals  
43 were collected (mean age = 42.8 years, SD=10.5 years). The mean time from castration  
44 was 31.5 years (SD = 10.6). ICD-10 diagnoses at the time of castration included  
45 pedophilic disorder (n=18; 36%), sexual sadism (n=17; 34%), and pathological sexual  
46 aggression (n=15; 30%). These patients represented 53.2% (n = 50/94) of individuals  
47 who had committed a sexual offence and had undergone surgical castration in the  
48 CR between 1998 and 2008 (CPT, 2009).  
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### *Doctors' responses*

Sexual recidivism was reported in two cases (4%). Medication side effects included loss of body/facial hair (38%), significant weight gain (36%) or weight loss (20%), gynecomastia (16%), and tiredness (18%). Some degree of osteopenia was found in all patients who underwent testing of bone density (n=34). Psychological side effects were also attributed to the medication, including depressive symptoms (16%), feelings of inferiority (13%), irritability and emotional instability (20%), and feelings of isolation (16%). No adverse psychological effects were observed in 50% of cases.

### *Patients' responses*

Satisfaction with somatic (n=35; 81%) and psychological (n=38; 88%) wellbeing was quite high. Satisfaction with sex life was more ambivalent (n=26; 60%). A range of sexuality-related issues were reported, including complete loss of sex drive in 16 patients (32%), erectile dysfunction in 17 patients (34%), and problems with orgasm in 12 patients (24%). There were no differences in suicidal tendencies, relationship stability, employment levels, or commission of non-sexual crimes either before or after intervention. The majority reported that their decision to undergo castration was voluntary (n=38; 88%), and 26 individuals (60%) asserted they would voluntarily undergo surgical castration again. The study confirmed the effectiveness of surgical castration, but also highlighted a wide spectrum of somatic and psychological side effects.

### *Russia*

Surgical castration for the treatment of sexual offenders is currently illegal in Russia. According to Article 11 of the "law on psychiatric care and the safeguarding of citizens' rights in the dispensing of such care" (Russian Federation, 1992), surgical castration and other irreversible methods are prohibited for the treatment of mental disorders.

### *Canada, UK and US*

In Canada, the UK and the US, surgical castration is not currently used as part of any official sex offender treatment programs and is not involuntarily imposed on individuals. Some patients seek and obtain this treatment voluntarily, usually after a

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4 successful trial of antiandrogen therapy, and in collaboration with a professional  
5 specialising in the area (see Saleh, Niel & Fishman, 2004).  
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#### 8 *Europe (not including UK)*

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10 Most studies on the efficacy of castration in reducing sexual recidivism were  
11 conducted in Europe, particularly Germany and Denmark, and these documented  
12 the long-term efficacy of bilateral orchiectomy for most patients (i.e., less than 5%  
13 recidivism). These patients were described as dangerous and severely paraphilic,  
14 serial contact offenders. Meta-analytic reviews have reported very low recidivism  
15 rates of 0-10% in patients who underwent surgical castration (Weinberger et al.  
16 2005), and a much stronger effect on decreasing sexual recidivism in comparison  
17 with other forms of medical treatments (Lösel & Schmucker, 2005), but they point to  
18 a variety of methodological limitations in these studies.  
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#### 26 **Conclusions**

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28 The intent of this paper was to summarize three days of intensive discussions among  
29 a group of international practitioners and researchers regarding the pharmacologic  
30 treatment of problematic sexual interests, paraphilic disorders, and sexual  
31 preoccupation in adult men who have committed a sexual offence. It became clear  
32 that there were significant differences among the participants and countries  
33 involved, including the definition of what constitutes a problem of sexual interest or  
34 behavior that needs to be treated, whether the treatment must be voluntary, what  
35 medications are used, the measures of efficacy, and even whether paraphilic  
36 interests can be changed. Not surprisingly, experts also differed in terms of specific  
37 psychotherapeutic interventions. However, in spite of these differences, there were  
38 many areas of consensus. Antidepressant medications were widely used, although  
39 the reasons for this varied, with some focusing on treatment of concurrent  
40 psychiatric disorders (anxiety, depression, sleep disorders), and others focusing on  
41 reduction of sexual drive. Testosterone-lowering medications were widely accepted  
42 as useful in reducing sex drive, at least temporarily, including both antiandrogens  
43 and GnRH agonists. Not reviewed in this paper was the wide difference in the cost  
44 and availability of GnRH medications, which undoubtedly affects how often they  
45 are prescribed.  
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3 Unlike many psychiatric disorders that remain out of the public eye, psychiatric  
4 disorders associated with sex crimes are understandably high profile because they  
5 cause harm to others. Societal responses to those who commit sexual offences, and  
6 especially those who are found to be statistically likely to reoffend sexually, appear  
7 to be growing more extreme and more punitive (Blagden & Perrin, 2016). Even when  
8 individuals seek help to reduce their risk of reoffending, they may be targeted by  
9 media and subjected to extreme reactions, and this public fear and panic tends to  
10 drive irrational decision-making (Fox, 2013; Harper & Hogue, 2015).  
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16 It is important for researchers and clinicians to work collaboratively to demonstrate  
17 the efficacy of current and new treatments. This can be facilitated by meeting like the  
18 one held in Prague in May 2017, in which experts can challenge each other's  
19 assumptions and paradigms, combine and compare data, and plan interventions and  
20 investigations. Sexual crime is an international problem, and attempts to solve,  
21 reduce and prevent this problem should also be global.  
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