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## *Internet Pornography: Addiction or Sexual Dysfunction?*

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### **Introduction**

It is becoming more common in practice to encounter those whose sexual dysfunction has a familiar theme: pornography.

The patient may present in a number of ways:

- Acknowledging a clear connection between pornography and their loss of libido, erectile dysfunction, delayed ejaculation
- With overt concerns about sexual or pornography addiction
- Unaware of any connection at all

The contributory effect may only become evident as they progress through therapy.

Whether or not we feel it is within our remit to treat addictions, with the increasing prevalence, it is important to develop an understanding of some of the mechanisms linking sexual difficulties to pornography (porn). This will enable us to assess the patient comprehensively, without exclusion and to fully utilise the therapeutic relationship.

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### **Pornography**

Pornography, from the Greek meaning 'the writing of [or about] harlots', has no official definition. There are many descriptions but for the purpose of this chapter I use the legal interpretation taken from the UK 2008 Criminal Justice and Immigration Act Part 5, Section 63(3):

An image is 'pornographic' if it is of such a nature that it must reasonably be assumed to have been produced solely principally for the purpose of sexual arousal

You may ask why, when 'pornography' has existed for hundreds of years, is it a problem now?

Pornography has undergone a huge metamorphosis from early erotic imagery found in pamphlets, books and magazines, to professional or homemade films on DVD, to today's offerings. The latter includes an endless variety of easily accessible, free-streaming, high-definition, often real-time and interactive material. In fact, pornography is so commonplace that soon we will be unable to imagine a time when there were multiple obstacles to acquisition.

We are a species that has been shown to have tactile and somatosensory empathy. Diffusion magnetic resonance imaging (MRI) studies that measure brain activity in participants while they witness the sensations and the actions of others demonstrate this empathy by consistently showing vicarious activation in the corresponding cortices (1,2). It is for this reason that porn can be arousing to us. We can think of it perhaps as 'erotic empathy'.

It is not that long ago that sexual therapists would have suggested that a couple view some pornography as a means to stimulate their flagging libido, often assuming scenarios showing mutual tender intimacies. Today it is commonplace in pornography to see a lack of intimacy and often gratification from abusive scenarios. Positive erotic components are often missing and sex may appear simply as an act of transgression. Arousal patterns may be further intensified by the voyeuristic presentation of violent pornography, increasing susceptibility to escalation (3).

It would appear to be the transition in the method of presentation of pornographic material that has opened the doors for porn-related sexual dysfunction. Without today's variety, ease of access and anonymity, there would appear to be little problem.



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## Usage

We live in a world where there is an ongoing sexualisation of contemporary culture. It is worth considering the change in high-speed Internet availability that has occurred over the past 10 years: in 2006, only 50% of UK adults had home broadband with an average use of 36 minutes daily (4); 2017, 91% had home broadband, 99% of those aged 16–34 and 97% of those age 35–54 years had recently used the Internet, often for hours a day and many of them on mobile devices (5); 90% of those age 16–24 years have a smartphone (6).

Looking at these dates it would appear to be no coincidence that the porn industry in 2006 was astute enough to develop the free streaming of pornographic material so that as more people accessed faster Internet speeds, pornography became more mainstream.

We are well aware that puberty and adolescence stimulate a natural curiosity to learn about sex and it is second nature to 'Google it'. Playground pressure to look is mounting and the easy accessibility of highly explicit pornography can for some set up the potential 'norm' for a highly neuroplastic adolescent brain. A National Union of Students (NUS) 2015 survey of 2,500 young people revealed that one-third of them had used porn for sex education as teenagers (7). Average age for first viewing of porn in one survey was 11 years and a tenth of 12- to 13-year-olds surveyed feared they had an addiction to porn (8, p. 27).

These adolescents are potentially our clients of the future.

When in 2007 psychosexual therapists started to see healthy young men in their 30s reporting erectile dysfunction, the common factor noted was that they were working within the information technology industry and therefore had the most prolonged access to high-speed Internet, and as a result, online pornography. The Kinsey Institute in 2007 was responsible for the first research in pornography-induced erectile dysfunction (PIED) and pornography-induced low libido (PILL) (9). Since then, the difficulty explaining the sharp increase in the number of men under 40 presenting with difficulties of erectile dysfunction, delayed ejaculation, lack of satisfaction and loss of desire has encouraged the plethora of research into pornography and its effect that continues today. The bulk of investigation has concerned male pornography use, probably due to the willingness of subjects to seek help and the more easily measurable physical effects. However in the past few years this has expanded to include more work about women. There are some differences emerging and I consider this later in a dedicated section.

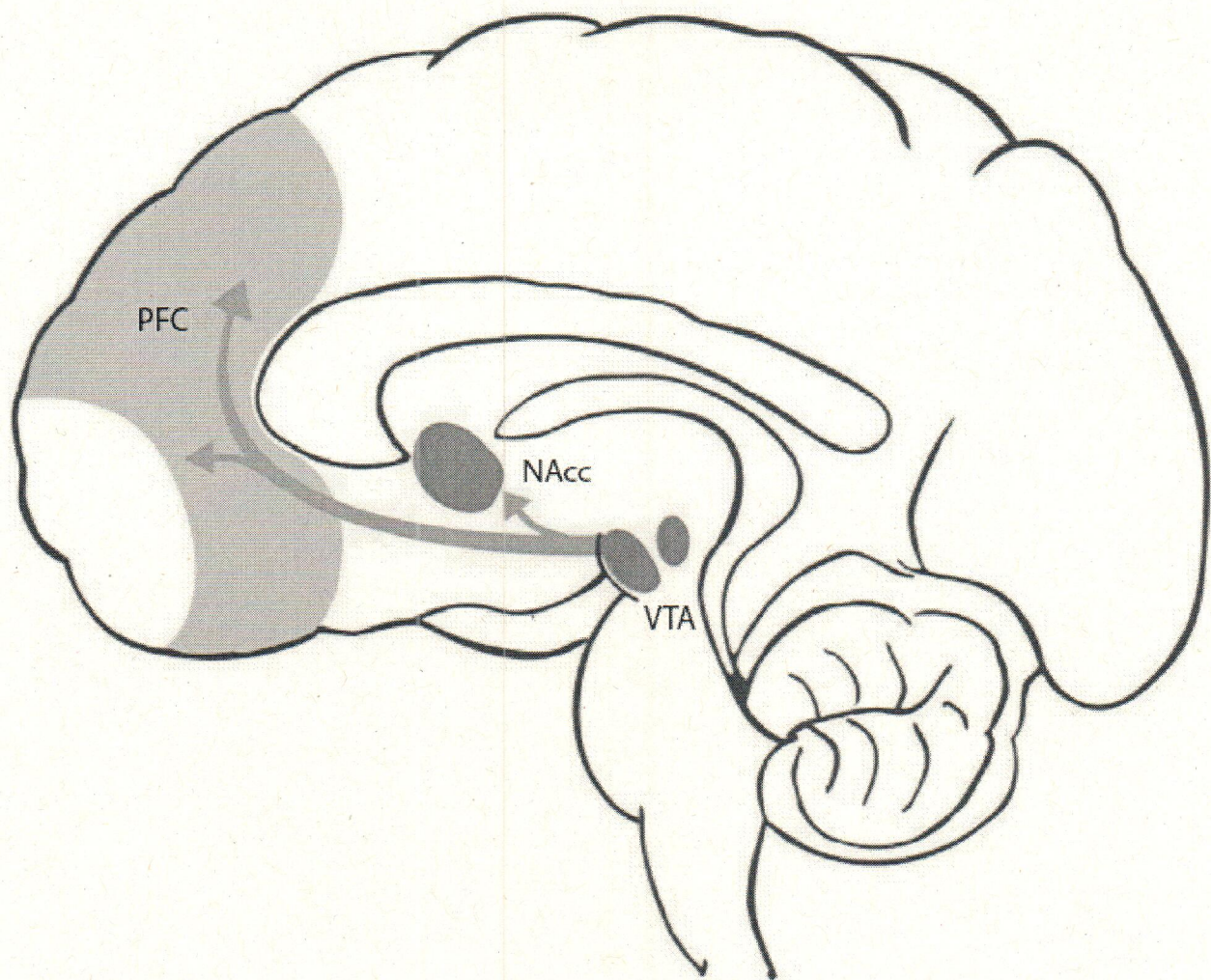
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## Neuroscience

### The Reward-Motivation Pathway

How does our brain behave when faced with a stimulus, particularly one that contributes to our survival such as food or sex? The human brain is programmed through dopamine to incentivise survival behaviours through the reward-motivation pathway. See Figure 21.1 and Adinoff (54).



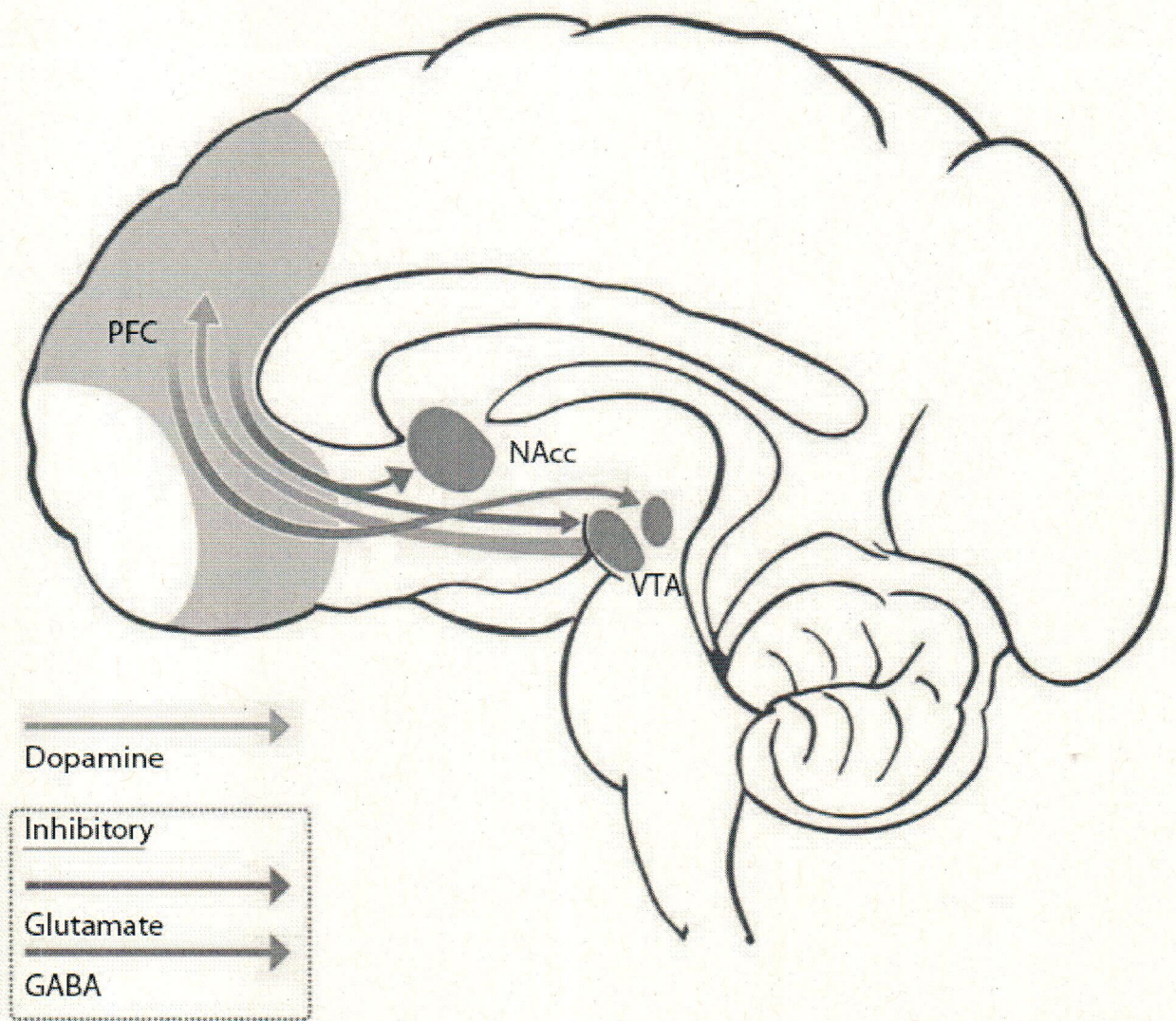


**FIGURE 21.1** The brain reward circuitry projects from the dopaminergic neurons in the midbrain ventral tegmental area (VTA) to the nucleus accumbens (NAcc) in the medial prefrontal cortex (PFC) and to the associated limbic structures.

This dopaminergic system is modulated by various neurotransmitter systems, including cholinergic, opioid, cannabinoid, GABAergic (main inhibitory mediation) and glutamatergic (main excitatory mediation). The route travelled backwards and forwards is known as the *mesocorticolimbic pathway* or *reward-motivation pathway*. Activation of this dopamine system mediates the rewarding effect not only of drug but also of non-drug or behavioural stimuli (10). There are many other additional contributing factors, and particularly of interest is the transcription factor *deltaFosB*, a Fos family protein, which can be thought of as the 'molecular switch' for addiction in its role as mediator of reward memory. Its presence and behaviour appear to be genetically determined, suggesting genetic susceptibility to addictive behaviour. It is known to accumulate in the nucleus accumbens following induction by chronic as opposed to acute exposure to drugs of abuse. It has also been shown to accumulate in the same area following chronic overconsumption of *natural* rewards, demonstrably running and sucrose drinking (consuming sugary drinks). This causes a state of sensitisation and increased incentive drive for the reward (11).

To simplify, we can think of dopamine as the main neurotransmitter driving both normal and addictive behaviour (reward, pleasure, fine tuning of motor function, compulsion, perseveration). The attractive and motivational property of a stimulus that induces further appetite for that stimulus is known as the reward. Anticipation of the reward stimulates the production of dopamine that then travels down the mesolimbic pathway. Its effect on the nucleus accumbens in the prefrontal cortex (PFC) determines the level of *wanting* or desire for the stimulus. This is known as incentive salience (31) (Figure 21.2).





**FIGURE 21.2** Incentive salience: the production of dopamine stimulates further neurotransmitters such as glutamate (1, excitatory) and GABA (2, inhibitory).

Thus, dopamine can be seen not as the pleasure chemical that dictates ‘liking’ of a substance or behaviour, but the driver, *the fuel for craving*. The reward, as described, is the *prospect* of pleasure rather than the pleasure itself ( 12). Modification of the system occurs through the ‘steady on’ influence of neurotransmitters such as glutamate and GABA. However, these modifying influences can be overwhelmed when there is endless novelty available. Continuous stimulation of the system results in repeated spiking of dopamine levels, which then serves to reinforce the appetite. Just as in drug addiction where the exogenous drugs of abuse compete for certain dopamine (D2) receptor sites, so do endogenous neurotransmitters, produced by the positive emotional effects of ‘natural’ rewards. The pathways would appear to be shared ( 13). Reduction in the D2 dopamine receptors causes escalation as the subject tries to potentiate and recreate the high ( 14). Prolonged disruption of the neuronal pathways appears to cause a physical change and reduction of the neurofilament proteins.

## Hypofrontality and Addiction

The PFC, or anterior part of the frontal cortex is that part of the brain that mediates executive functioning: goal planning, internally guided behaviour and impulse control. All are necessary for countering urges and modifying risk-taking behaviour. The PFC is highly developed in the human but interestingly is an area whose development tends to lag behind that of other parts of the brain. It does not reach its optimal balance until our mid-20s. The adolescent is thus particularly vulnerable to the development of addictive behaviour when exposed to excessive dopaminergic stimuli (15,16).

Damage to the PFC has been studied in detail in patients following a stroke, with tumours and after trauma. Unsurprisingly, disruption to the area results in impulsivity, compulsivity, emotional lability and impaired judgement. Collectively this is known as hypo-frontal syndrome or *hypofrontality* (22).

It is easy to imagine from these characteristics that similar frontal abnormalities occur in those with drug addiction



(opiates, cocaine and methamphetamine), and this has been demonstrated through MRI-based studies using voxel-based morphometry (VBM). Interestingly, the same frontal dysfunction is also associated with compulsive consumption of natural rewards, namely food and sex (17). This was demonstrated for the first time in 2009 in a preliminary study using diffusion MRI techniques, in patients unable to control their sexual behaviour (18).

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## The Coolidge Effect

A behavioural psychologist first described the Coolidge effect in the 1950s. It was titled in relation to a joke made by Calvin Coolidge, American president 1923–1929, when he and his wife were being shown around an experimental rooster farm. He responded to his wife's comment about the excessive mating frequency of the roosters noting that they at least were mating with a different bird each time (19).

Thus the Coolidge effect was the illustration through animal studies of a natural desire for sexual variety and new experience. Demonstration in rats showed greater reward circuit activity with exposure to a new sexual partner. It was observed that male rats when faced repeatedly with the same female partner showed progressively longer ejaculation time, post-orgasmic sluggishness and early cessation of activity. This was seen to be in stark contrast to those male rats to whom a different female rat was presented after each ejaculation: the male continued until completely exhausted, urged on by repeated surges of dopamine (20).

The reward circuitry is responsible for the cognitive processing of an experience, the positive reinforcement and subsequent trigger to perpetuate behaviour. This change in the neural circuitry is called *neuroadaptation*. It is facilitated by repetitive, high-emotion, high-frequency exposure (21,22). These are conditions that can easily be fulfilled by today's Internet use, including online pornography with its opportunity for rapid novelty just as the Coolidge effect.

Humans, although a species that tends to stay in pairs, experience a similar effect associated with sexual novelty. When exposed to sexually arousing novel female images, men produced larger volumes of ejaculate with higher motility and in less time (23).

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## Addiction?

There has been much debate around the terms *addiction* and *compulsion* when relating to sex and/or pornography use. Each term can be helpful in understanding the problem but equally has its limitations.

The question is still the same: why is it so easy to develop a problem with Internet pornography?

This can initially be answered by the three 'A's' described by researcher Alvin Cooper as the 'engine' of addiction – see Delmonico's work entitled 'In memorium to Alvin Cooper' (24).

- *Accessibility*: merely a smartphone
- *Affordability*: almost infinite free content
- *Anonymity*: no one need know what you access

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## The American Society of Addictive Medicine (ASAM)

A primary chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic manifestations (biological, psychological, social, spiritual), reflected in a pathological pursuit of and/or relief by substance use *or* behaviour.

The addiction is characterised by the following:

- Inability to consistently abstain
- Impairment of behavioural control
- Craving
- Diminished recognition of significant problems
- A dysfunctional emotional response



(See ASAM website for the full definition [25].)

It illustrates that in order for something to be an addiction it needs to have an associated negative impact.

As an alternative to addiction, some favour the term *sexual compulsivity*, although this does not appear to take into account the 'high' associated with sexual compulsion and the 'anxiety' usually felt with other compulsive behaviours where there is generally no reward (compare hair pulling, hand washing).

The condition of *hypersexual disorder* (26), was proposed in 2010 for the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)*. The American Psychiatric Association (APA) repeatedly rejected this.

An abbreviated version of the proposed criteria for hypersexual disorder is as follows:

- Over a period of at least 6 months, recurrent and intense sexual fantasies, sexual urges and sexual behaviour in association with a number of criteria
- Clinically significant distress or impairment in social occupational or other important areas of functioning associated with the frequency and intensity of these sexual fantasies, urges and behaviour
- Sexual fantasies, urges, behaviour are not due to direct physiological effects of exogenous substances, a co-occurring medical condition or to manic episodes
- Individual is at least 18 years of age

This description certainly has features that without doubt describe aspects of the problem, but it also has some limitations as an umbrella for the 'addictive' behaviour concerning Internet pornography. Moreover, it suggests by its title that the person would be more likely to have a high sex drive, quite the opposite to the reality.

Since then, the APA has recognised *behavioural* addiction related to the Internet, specifically the addictive potential of Internet Gaming Disorder (2013 *DSM-5*). The World Health Organization *International Classification of Diseases (ICD-11)* published in June 2018 has added Internet Gaming Disorder within the addictions section as anticipated and although it has also extended the sexual dysfunction categories to include C672: Compulsive Sexual behaviour disorder, it has not classified Sexual Addiction as a distinct condition. This has already attracted much comment prior to publication and will no doubt continue to do for the foreseeable future ( 55,56). Perhaps something to take into account is that particularly in the United States the naming of a condition has significant implications for the medical insurance companies and their obligation to fund therapy and so the cynics would suggest that this may carry some weight. However, they are still using *ICD-10* and it is anticipated that they will not move to *ICD-11* for many years. For this chapter however I prefer to look at the practicalities rather than become overly distracted by classification.

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## What Happens in Practice?

Thinking back to the reward-motivation pathway when viewing pornography, we need to consider the 'fuel for craving'. The heightened arousal created by each click of a mouse or swipe of a page causes a surge of dopamine in anticipation of the reward. The search for novelty within the environment (Coolidge) activates the reward system, which is then repeatedly triggered by seeking (surfing) the endless and rapid variety of content.

The activity of using Internet pornography and its power to deliver unending stimulation is thought to constitute 'supernormal stimuli' (phenomenon first described by Tinbergen [ 28]). This ornithologist was jointly awarded the Nobel Prize in Medicine in 1973 for work around individual and social behaviour patterns. A *supernormal stimulus* was the term coined after demonstration that one could build an artificial object that was a stronger stimulus, or releaser for an instinct, than the object for which the instinct originally evolved. Thus for Tinbergen, one illustration was that birds would preferentially sit on plaster eggs that were larger with more defined markings or saturated colour than sitting to hatch their own eggs which were paler and dappled. Hilton refers to this phenomenon in porn where the person may show preference for two-dimensional but highly stimulating sexual imagery over human contact for sex, despite the evolutionary instinct of sex for procreation ( 29). Chronic overuse is highly stimulating. Recruitment of our natural reward system occurs at higher levels than encountered by our ancestors as our brains evolved, thus making it liable to switch into an addictive mode (30).

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## Escalation

The more the viewer seeks and masturbates to porn, the more dopamine is produced so that eventually the receptors and signals in the brain fatigue. The viewer is left still wanting, but unable to reach the desired level of satisfaction, and



so becomes desensitised. For a man this may mean difficulty in maintaining an erection with imagery that would previously have provided reliable stimulation. Even with an erection they may find that ejaculation is delayed and ultimately may be absent as they struggle to reach the previous level of arousal. The viewer may experience their libido diminishing as pornography takes the 'sex' out of sex. They may even avoid ejaculation and practise 'edging', remaining at the point just prior to orgasm and ejaculation, for as long as they can tolerate. In this way they satisfy the craving for the 'seeking' behaviour for the maximum amount of time. When ejaculation occurs, they may feel deflated rather than satisfied as they know the activity or ritual is now over.

In order to escape this effect, the viewer may expand their tastes in the pursuit of novelty. Sexual images that cause anxiety, shock and disgust can stimulate adrenaline alongside dopamine just as in sex (31). The chemical combination is mistaken for pleasure as the disgust reflex is turned off. The viewers may find themselves masturbating to content that appears to them abhorrent and shameful when 'sober'. Desensitisation may equally induce a transition from viewing pre-filmed imagery to actual interaction, be it online in chat rooms or with webcams. Eventually visiting sex workers may be the only way to satisfy the craving. A sense of shame and need for secrecy will inevitably develop alongside concerns that their own sexual tastes and proclivities are unacceptable. When faced with a patient describing escalation it is important to be mindful of any mention of illegal or forensic activity.

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## Assessment

One of the aims of our assessment is to differentiate between pornography use and problematic pornography use.

Our patient may admit to use but it may not be causing them any problem at all; use may be purely recreational. Additionally, evidence has shown that Internet pornography usage may have had a number of positive impacts on the experience of individual sexuality, particularly among the youth, and more marginalised populations such as LGBTQ (lesbian, gay, bisexual, transgender, queer or questioning) and the disabled (32). Pornography consumption may merely empower by leading to an expansion of the 'established script' rather than an abandonment of usual sexual behaviours (33).

The past few years have seen a plethora of research into Internet use disorders, particularly gaming and gambling. With respect to pornography, a number of clinicians including Mark Griffiths devised the PPCS or problematic pornography consumption scale, based on his (2005) six-component addiction model (34). It used a rigorous set of screening questions to quantify the patient's usage and the impact it was having on their social, emotional and occupational well-being. The Internet Sex Screening Test (ISST) followed this and then in 2014 the problematic pornography usage scale (PPUS) aimed at developing further the core factors that were related (35).

However, the safe space that we provide where sex can be discussed with our patients in a non-judgemental and thoughtful manner is, I feel, enough for our Institute of Psychosexual Medicine (IPM) work. In an environment of acceptance, we can work to eliminate the shame so commonly felt and gain insight into the detrimental effects they may be experiencing, without employing a specific questionnaire.

What we are looking out for is an unhealthy relationship with a mood-altering experience. Some of the things to consider are as follows:

- Has something that started as the pursuit of pleasure become something the patient has to do in order to feel normal?
- Are they using it to anaesthetise themselves from feelings of loneliness, anger, anxiety or loss?
- Do they perceive their behaviour to be out of control? Where pornography is used to modulate emotion it is likely this will become the case.
- Do they find themselves spending increasing amounts of time thinking about, preparing for and viewing pornography?
- Has the type of material they are viewing changed to something that they would never have imagined themselves participating in and would not like to admit to now?
- Have they fetishised certain behaviours as a result of their viewing habits without which they are unable to engage in partnered sex?
- Are they struggling to become aroused with their partner in comparison to when using porn?
- Have they repeatedly tried to stop or limit their usage and failed?
- Have they had or do they have other addictions?



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## What Predisposes Our Patient to Addiction?

Internet pornography is readily available in an anonymous setting. Why then does every user not develop an addiction or compulsion to use?

There is a vast body of knowledge concerning addiction and what makes us susceptible. As IPM therapists most of us have some knowledge of, but not specialist training in, this field. It is an extremely complex topic and way beyond the scope of this chapter. However, it is helpful to be aware of some of the theories surrounding the subject.

Robert Miller in his *Feeling State Theory* of addiction believes that all destructive behaviours associated with impulse control have their basis in normal healthy desires. He sees the addiction as a result of the positive feeling that becomes rigidly linked with a specific behaviour or 'feeling state'. When this feeling state is triggered, the person will feel compelled to carry out the behaviour in search of the desired sensation. It is quite easy to see how this would apply to the search for sexual arousal (36):

Intense desire + Intense positive experience = Feeling state

Feeling state + Triggering event = Desired feeling + Compulsive behaviour

He advocates a rigid protocol of behavioural treatment using the impulse-control disorder protocol with eye movement desensitisation and reprocessing. Clearly this requires specialist training for the therapist.

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## Attachment, Trauma, Opportunity

When considering an individual's vulnerability to developing an addiction, there are particular categories that we can consider:

- Attachment induced, where the patient is more likely to look to an inanimate thing rather than a person for comfort, not having had the experience of 'safe' attachments in their early life.
- Trauma induced, which may be the result of early life experience or something more recent such as a death in the family.
- Opportunity induced, which in the case of Internet pornography could be as simple as having a smartphone. It is worth noting that in adolescence, the prevalence of peers sharing pornography in the playground may mean that exposure to material could be unintentional.

Understandably there is more often than not a crossover between the groups, but there is some evidence from support groups to show that 'opportunity' may be the most influential factor in online pornography addiction (37). It is helpful though to listen out for those things in a patient's story that may indicate any one of these vulnerabilities.

Unlike substance addiction where the negative effects may become evident very quickly, Internet pornography use can escalate and develop an addictive pattern with very few side effects over many years. It can alter the user's sexual template. In fact it may not be until the patient seeks out a partner and finds that they have no libido or are unable to maintain an erection when faced with a real-life situation that they realise they have a problem. They have often developed a series of convincing arguments for themselves such as their viewing is merely for relaxation, harms nobody, relieves loneliness or boredom and thus can have no negative impact. Escalation though may have a variety of negative consequences:

- Financial, if participating in paid-for pornography content (on multiple Internet links direct from the free content), use of escorts or even findom, the fetish of financial domination by an escort.
- Social, where they lack motivation to interact with their family or socialise with friends, becoming more reclusive.
- Occupational, where the constant distraction to check their phone, pull up a favourite page on the computer or pop out for a rapid encounter with nearby escort, renders them unable to concentrate on or complete tasks.
- Health, when they start to suffer from lack of sleep, anxiety or depression. It is not uncommon for a patient to have felt suicidal and present complaining that it has 'taken over their life' and that they are totally exhausted by it.

Young men who have had no sexual fantasy or arousal prior to their introduction to pornography may experience a



whole host of difficulties when faced with 'real-life' partnered sex. They are likely to have conditioned their sexual arousal to solitary sex. They may have no concept of intimacy associated with sex and expect their partner to be able to perform like a 'porn star.' The physical sensations of sweat and the smells of bodily arousal may overwhelm them. Pornography after all does not smell. They are vulnerable to developing a negative body image as they do not meet the physical standards that they see online: a sense of inadequacy can result from comparing penis size, musculature or levels of sexual stamina; unrealistic expectations for young women to have 'perfect' breasts, neat labia and no pubic hair. The perception of what is normal can be altered for both self and partner creating unnecessary anxiety.

Converting the physical position they favour to masturbate into one where they can engage with a partner may feel impossible, similarly in older men where physical challenges may be more relevant. All the associations that they have fostered with sexual arousal, and for men erection and ejaculation, may be impossible to reproduce when there is another party present.

When a patient is at the stage of experiencing difficulties only with partnered sex there may be reluctance to admit that their 'satisfactory pornography driven sexual experience' may even be a factor. The temptation to retreat to a world of cyber-sex, when all libido experienced with their partner has dissolved, is a potent one. The trigger to address the problem may only occur when no amount of escalation of the type of images viewed or risks taken can produce sexual satisfaction.

### CASE 1

I called Colin in from the waiting room. He had a diffident air, was tall and slim with work overalls and heavy boots. He had asked for a re-referral to our service having been seen 8 months earlier by a colleague but been unable to engage with therapy at that time.

There was little emotion and he had an air of detachment. He sat still but jiggled one leg in a repetitive motion while seeming to scan the floor. He said that he had a problem that needed fixing but he could not do it himself so he had come back.

Colin had just passed 30, which he saw as a milestone. He had two young children, a wife whom he said he loved but that he had no desire for her sexually at all. When they did have sex it was perfunctory, he struggled to keep an erection and he derived little satisfaction. He said he was not that bothered really as they were often tired but it was causing problems between them.

I wondered aloud with him whether this was all about their busy lives and young family or whether he knew of anything else that might be playing a part. His referral had mentioned his pornography use yet he had not mentioned it at all.

I asked him about masturbation. Did he use any pornography, and was his lack of desire only related to sex with his wife?

While staring at the floor he said that things might be easier if they were more adventurous sexually. He found that if he fantasised about some of the pornography he had seen online then he could usually maintain an erection with her despite his lack of desire. Had he talked to her about any of this I enquired?

The words came tumbling out. She had caught him masturbating to webcam girls online. 'I just can't see the problem' he said. 'It's normal. It's not hurting her. I've always done it – everyone does it'. The first bit of eye contact. There was an air of defiance. It felt like having my teenage son challenge a rule I had laid down. 'I just don't get why she's so upset. She's told me if I don't sort it out she's leaving'. I shared with him that his anger was palpable, and he nodded his head in agreement.

The next time I saw Colin, he appeared to be a little more relaxed. He looked me in the eye and volunteered that he had been reflecting on his pornography use. It had all started in his late adolescence during his first job. A couple of his colleagues had shown him magazines and lent him an occasional DVD. It had felt exciting. He visibly puffed up his chest as he described how it had made him feel good and turned him into a 'proper man'. Home had been difficult. His dad had often shouted at him for not doing well at anything and for being lazy and his mum had been wary of a close relationship, as his dad had said it was making him 'soft'. School had been a misery. He had felt like an outsider with few friends. He had been skinny and bullied then, but being able to banter with the lads at work about things he had discovered on the computer helped him to feel he belonged. He looked forward to retreating to his bedroom each evening and finding the images of the perfect girl in the perfect scenario. The sense of anticipation would begin in the late afternoon as he counted the hours.

Colin told me that over the next couple of years he had used pornography almost every day, and sometimes several times a day. It felt calming and reassuring despite his finding it more difficult to get aroused. He



remembered meeting his first girlfriend and regaining that initial high and excitement that he had felt with the porn. He had tried to experiment with her, reliving the moves he had found so intriguing in porn but she was 'disgusted' with him and the relationship had quickly ended. He mentioned feeling ashamed and humiliated and vowed to himself to keep it secret. Almost immediately he had found solace by increasing the hours spent watching porn. His mates were experimenting with recreational drugs but he found nothing came close to the relief from any anxiety he felt after flicking to the sites he had saved on his computer.

As he spoke it felt as if he was discovering all of this for the first time. 'I can say it here and you're not judging me'.

At our third meeting he said that he had stopped looking at porn, and then qualified it with 'well, tried to'. His body language was more relaxed; he was able to meet my eye. He explained that it was not until he had been talking about it in our sessions that he realised just how much he relied on it to feel better, mainly to reduce anxiety. It had felt weird to him to realise this and he mentioned that he had been getting pretty sick of desperately waiting for his wife to go out each time he needed to 'calm down'. He had started to feel he was 'some kind of a pervert' and even resenting time that she and the kids were around. He disclosed the powerful urges he had felt to look since stopping, and how this felt the same as when he moved from images to films and then to chatting live online. He said he just did not understand why it was so compelling; if he knew why he was doing it maybe he could stop. I thought it was appropriate to explain to him a bit about his reward-motivation pathway. We talked about dopamine, and about the reinforcement that happened each time. I reflected some of the early life vulnerabilities that I felt were present and how they may have made him more susceptible to developing a problem. 'I've never been able to talk', he said. 'I always think people will laugh at me if I say how I feel. It's too risky'.

The session was ending and I suggested he looked at a couple of resources that are available online to further explain what was going on:

- *The Road to Brighton*, Web reference (38)
- *Paula Hall's 'Kick Start Recovery Kit'*, Web reference (39)

Two months later and Colin returned to see me. He was smiling for the first time and sat easily in the chair. He shared that he had been completely abstinent from porn and even felt that he was much less preoccupied by the urges to search online. He flushed as he recalled the thrill at managing to talk to his wife about it and share his understanding with her. They had come up with a plan for him to relinquish his laptop and downgrade his smartphone to one that would merely text and make calls. This had made it so much easier he said, and he felt she was involved and was starting to trust him again. His constant anxiety seemed to have dissipated. The final thing that he wanted to share with me was that he had started to see her as sexy again and they had resumed some physical contact with sensual moments. He wanted to take it slowly and savour all the feelings that he recognised had been almost numbed by the porn. He felt that she would be more likely to trust him this way as he knew that she still had anxieties about whether he would just go back to his old habits. They had not yet progressed to intercourse but he acknowledged that the relationship was so much better that this would happen eventually.

Colin finished by saying that he felt he did not need to come again: 'I feel liberated from porn'. The lack of desire that he had presented as his initial problem had become quite secondary. Briefly, it all felt a bit too good to be true. I found myself feeling a little anxious on his behalf.

Reassuringly however, his parting words were to express a degree of realism; he knew he was susceptible to going back, which for him right now was not conducive to a healthy sex life with his wife. He felt that the urges may never disappear completely and that he may never find a substitute for that early high he got from the pornography but for him right now communication was the key. He volunteered that he could not risk the negative spiral of shame that happened as a result of any secrecy. I discharged Colin with a caveat that he could return to the service within 6 months for a single follow-up appointment if he felt the need.

I wondered at the time which one of us I was attempting to reassure.

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## Discussion

The potential health risks of Internet pornography are not as well understood as those for tobacco, alcohol and drugs of abuse. It is increasingly socially acceptable and use of Internet pornography is seen as the norm. This may be why men can be slow to make the connexion between their pornography viewing and their sexual difficulties.



In 2016, a comprehensive review of the effect of Internet pornography on sexual function reinforced what so many of us have suspected. It found a number of studies that correlated pornography use with arousal, attraction and sexual performance difficulties, including difficulty orgasming, diminished libido or erectile dysfunction. The studies also noted a negative effect on partnered sex, and less sexual and relationship satisfaction. There was a preference for using Internet pornography to achieve and maintain arousal over partnered sex and greater brain activation to the former in those reporting less desire for sex with a partner ( 40). As mentioned earlier, the adolescent brain with its immature frontal cortex is more susceptible to pathological learning of the reward system. Worryingly there is therefore a greater risk of addiction in adolescence and studies have found a greater future use of 'deviant pornography' including bestiality and child pornography (41).

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## Women and Internet Pornography

Much of this chapter has focussed on the effects of Internet pornography use in men. This stems from the dominance of research which has concentrated predominantly on men, previously noted to be likely to the availability of subjects presenting with physical effects suffered around erection and ejaculation. However if we consider forums and online resources we find that there are many women who also suffer from compulsive and potentially addictive use of porn. An approximate figure taken from self-help group <https://nofap.com>, a community-based porn recovery site using peer-to-peer support (42), would suggest that 30% of female sex workers are in fact sex addicts, many of whom may have begun their journey through pornography use.

Several studies looking at gender difference in pornography use have revealed quite consistent results: it would seem that consumption by men is greater than by women; that men watch more hard-core rather than soft-core porn; that women tend to watch more often with a partner than alone (in contrast to men); that women reported greater subjective arousal if fantasising about a partner when watching explicit pornographic stimuli (43,44).

Context appeared to be more important for women than men, although interestingly in one study, eye tracking showed that women were initially more likely to look directly at genitals whereas men looked at female faces (45).

Women, like men, may present to us with reduced desire or reduced sensitivity to sexual arousal with their partner but this seems to be strongly correlated with many contextual factors including relationship, health and past sexual attitude (46). There is, however, an association with pornography consumption in women and more frequent, casual and risky sexual encounters ( 47). Therefore, when helping our female patients to untangle any compulsion for risky sexual encounters, we need to consider discussing their pornography use in addition to the associations with this behaviour with which we are more familiar. Women reported pornography being influential around their sexual practises, for example their participation in anal intercourse, despite the majority reporting the experience as a negative one. Thus when listening to our patient who is experiencing a loss of desire and reluctance to engage in sex, it is appropriate to enquire into their expectations around sexual practises and the influences on such ( 48). Women are less likely than men to volunteer a preference for using pornography for sexual arousal than for partnered sex and so when enquiring routinely about masturbation in the consultation we should remind ourselves to quantify whether this is satisfactory *without* pornographic stimulation, rather than assume this is so. Finally, an awareness of the susceptibility of young women to be negatively affected by being solicited for creating pornographic imagery, whether in adolescent sexting or the more organised introduction through 'modelling' to the porn industry, may help us in our work with them around sexual dysfunction (49).

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## Treatment

Research has shown that there are those who experience online sexual activities in a healthy manner. However, as previously described, there are a number of men and women who through a variety of susceptibilities will experience the negative consequences of problematic use of Internet porn.

Defining this as an addiction or a compulsion is not vital in order to decide on an initial treatment path. There is also a category of patients who may perceive themselves to have an addiction (SPPAs or self-perceived pornography addicts) but who would not fit the usual criteria for the same. This is something heavily influenced by the patient's religious beliefs and cultural norms and something for which further enquiry and sensitive explanation may suffice.

Several studies have looked at treatment in various forms: individual therapy, group therapy, pharmacotherapy and peer support. Encouragingly 'all studies (bar two \*) reported positive impacts of treatment (i.e. an overall reduction in



cyber-sexual behaviours) following the implementation of the intervention, irrespective of type, but with behavioural treatments proving more beneficial in alleviating symptoms and thus negative consequences' (50).

Just as in other addictions, there is a strong argument for abstinence as a form of treatment (52). This may require very specialised help for some, but others may not require anything more than our support as we explore with our patient the likely other factors that play a role in their sexual dysfunction. Achieving abstinence (sobriety) can be complicated, however, as the ultimate aim is to have a healthy sex life (recovery) rather than abstinence and therefore absence of arousal and sex (contrast drug or alcohol addiction).

Sexual dysfunction recovery times seem to relate to pre-porn exposure to masturbation and sexual experience. They can therefore often be more rapid in the slightly older patient. If there has been a sexual template set prior to their compulsive pornography use then it can be re-awakened, as it will still exist within their limbic system memory. Those who have known nothing different however and who have begun their pornography exposure at a time when their brain was highly neuroadaptive may find that they require many months of abstinence before they regain any libido, erectile function or ability to ejaculate (53).

We may feel that it is in the patient's best interest for us to refer to specialised settings or signpost them to self-refer. There are a variety of options available:

- [www.sexaddictionhelp.co.uk](http://www.sexaddictionhelp.co.uk) – A free online tool for sex and porn addiction recovery: Paula Hall Kick Start Recovery Programme
- <https://atsac.co.uk> – Association for the Treatment of Sexual Addiction and Compulsivity
- 12-step programmes: face-to-face, online, tele meetings:
  - [Saauk.info](http://Saauk.info) – SAA (Sex Addicts Anonymous) UK
  - [www.Slaauk.org](http://www.Slaauk.org) – SA (Sexaholics Anonymous) UK
  - [www.slaa.org](http://www.slaa.org) – SLAA (Sex and Love Addicts Anonymous)
  - [www.cosa-recovery.org](http://www.cosa-recovery.org) – COSA (Compulsive sexual behaviour problems and partner support)
  - [www.pornaddictsanonymous.org](http://www.pornaddictsanonymous.org) – Pornography Addicts Anonymous
- [www.relate.org.uk](http://www.relate.org.uk) – Relate, help with sex addiction, various centres with specialisms
- [www.nofap.com](http://www.nofap.com) – Provides useful community support and reassurance to those who wish to achieve abstinence; advocates total abstinence from masturbation to pornography and from sexually compulsive behaviour in an attempt to 'reboot' sexual desire and function but without the 12-step emphasis

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## Conclusion

When considering our patients I am not suggesting that the mention of pornography use should mean that we abandon our usual assessment and way of working and simply direct all our patients to 12-step groups or online forums. It is, however, important for us to incorporate awareness of the potential association of our patients' difficulties with Internet pornography in order to offer them a more thorough understanding of their problem. This way we will be able to differentiate between those with whom we can work successfully in an IPM fashion, and those who perhaps fit a purely addictive picture and would benefit from a more structured addictions model of therapy.

Unfortunately, therapy for behavioural 'addictions' is even more poorly funded than that for the more established addictions such as to drug and alcohol. Our role may thus be to signpost the patient to relevant self-help literature (see Useful Resources section in this chapter) and online options while we work alongside them. The potential outcome here is that as they eliminate the effects of the pornography use, we are there to work with them on the residual factors that may be contributing to their sexual dysfunction.

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For websites in specialist addiction settings, see list in text.

## FURTHER TRAINING FOR PROFESSIONALS

Diploma in Sex Addiction Counselling , ISAT (The Institute for Sex Addiction ) training . E-mail: [info@theinstituteforsexaddictiontraining.co.uk](mailto:info@theinstituteforsexaddictiontraining.co.uk).

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\* The two studies not reporting reduction in cyber behaviour did however report improvement in mood and overall risk (51).