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Crafting the ideal body: the role of injections in Brazilian bodybuilding

Gabriel Salgado Ribeiro de Sá

Chronic injection of Image and Performance Enhancing Drugs (IPED) constitutes a complex, culturally significant, yet understudied ritual in competitive bodybuilding. This multi-sited ethnography, conducted in a Brazilian "hardcore" gym and its associated digital community, explores how athletes initiate, learn, and normalize injectable IPED use. Moving beyond pathologizing framings, the study interprets these practices as embodied rituals of self-formation and identity transformation rather than mere substance abuse. Through social apprenticeship, athletes master injection techniques that convert pain and biomedical risk into structured confidence and bodily control. Drawing on Victor Turner's theory of liminality, the injection ritual emerges as a contemporary rite of passage that enacts symbolic death and rebirth, granting new social status and communal belonging. The findings show how these practices reconcile bodily vulnerability with the pursuit of an idealized physique, illuminating how ritualized injections produce symbolic mastery and enable athletes to navigate biomedical uncertainty while sustaining moral and social coherence.

KEYWORDS: anthropology of pharmaceuticals, bodybuilding, image and performance enhancing drugs, risk, androgenic anabolic steroids, medical anthropology.

Esculpindo o corpo ideal: o papel das injeções no fisiculturismo brasileiro ◆ A injeção crônica de substâncias para aprimoramento de imagem e desempenho físico constitui um ritual complexo, culturalmente significativo e ainda pouco estudado no fisiculturismo competitivo. Esta etnografia multi-situada, conduzida em uma academia "*hardcore*" brasileira e sua comunidade digital associada, investiga como atletas iniciam, aprendem e normalizam o uso de injetáveis. Indo além de enquadramentos patologizantes, o estudo interpreta essas práticas como rituais corporificados de autoformação e transformação identitária, e não como mero abuso de substâncias. Por meio de um aprendizado social, os atletas dominam técnicas de injeção que convertem a dor e o risco biomédico em confiança estruturada e controle corporal. Com base na teoria da liminaridade de Victor Turner, o ritual de injeção surge como um rito de passagem contemporâneo que encena a morte e o renascimento simbólicos, conferindo novo *status* social e pertencimento comunitário. Os resultados mostram como essas práticas reconciliam a vulnerabilidade corporal com a busca por um físico idealizado, iluminando como as injeções ritualizadas produzem maestria simbólica e permitem que os atletas naveguem a incerteza biomédica, mantendo uma coerência moral e social.

PALAVRAS-CHAVE: antropologia dos medicamentos, *bodybuilding*, drogas para melhora de imagem e *performance*, risco, esteroides anabólicos androgênicos, antropologia médica.

SÁ, Gabriel (Gabrielsalgado4@hotmail.com) – doutor em Ciências Sociais, UFJF, Brasil. ORCID: 0000-0001-7499-3146. CRedit: conceptualization; content and data curation; formal data analysis; investigation; methodology; project administration; material resources; visualization; writing – original draft.

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INTRODUCTION

Bodybuilding is a sport grounded in a disciplined lifestyle of strict diets and rigorous training. For competitive athletes, it often includes the strategic use of pharmaceuticals. The central aspiration is a meticulously sculpted physique, which represents the ultimate objective of these efforts (Richardson 2012a). More than most athletic disciplines, bodybuilding fosters a culture where the use of anabolic androgenic steroids (AAS) and other image and performance enhancing drugs (IPED) is normalized rather than stigmatized. This phenomenon, termed controlled drug consumption, is a deliberate approach to achieving culturally prescribed physical ideals (Monaghan 1999a; 1999; Richardson 2012b).

Two predominant patterns of AAS use are cycling, and blast and cruise. Cycling involves a six to 16-week period of use followed by an equivalent period off to promote muscle growth and allow for hormonal recovery. In contrast, the blast and cruise method alternates between high-dose ("blast") and low-dose maintenance ("cruise") phases to prevent muscle loss associated with off-cycles while minimizing side effects (Sagoe *et al*. 2015; Ding *et al*. 2021; Underwood 2017).

Unlike much existing research, our anthropological investigation focuses on Brazilian bodybuilding athletes who utilize the blast and cruise method, which involves frequent – often weekly or daily – injections of IPED. This focus aligns with calls for more nuanced research into diverse administration methods (Van de Ven, McVeigh and Winstock 2020) and the broader athlete experience (Piatkowski *et al*. 2023). By concentrating on this chronic injection routine, it is investigated how the sport fosters the adoption of pharmaceuticals as bodily techniques (Mauss 1973) connected to specific sociocultural expectations. While beginners often opt for simpler oral steroids, experienced athletes typically transition to injections (Van de Ven, McVeigh and Winstock 2020). Our study focuses on experienced athletes who have relied on chronic injection practices for a period exceeding two years. We argue that injections

symbolize expertise and mastery, reflecting the technical skill required to handle syringes, needles, and sterilization. As rituals, they embody routine practices deemed essential for achieving muscle growth and fat loss, often framed as a transformative journey that gradually shapes athletes into self-appointed caregivers. Our analysis shows how the ingrained habits of chronic injection (consistency and intentionality) foster a sense of control and confidence in managing substances that carry significant health risks. Over time, injections transcend mere function; they evolve into customary practices that cultivate collective solidarity and a distinctive cultural identity, underscoring a heightened dedication to the pursuit of an idealized physique.

BODYBUILDING AND SOCIAL SCIENCES: AN OVERVIEW

Driven by the relentless pursuit of excellence in modern athletics, the narrative of IPED is deeply connected to the evolution of professional sports (Dimeo 2007). Originally confined to elite athletes, their use has expanded into recreational domains, normalizing pharmaceutical enhancement in the pursuit of physical ideals (Backhouse *et al*. 2007; Sagoe *et al*. 2015; McVeigh, Bates and Chandler 2015; Macho, Mudrak and Slepicka 2021). Researchers have explored the rationale behind these perceived "deviant" behaviours, with Monaghan (1999a; 2001), for instance, exposing a fluid, pluralistic knowledge system emerging from peers, trainers, and online forums rather than traditional fixed authorities.

Bodybuilders engage in a distinct process of intentional transformation, using gyms as workshops where targeted exercise, diet, and pharmaceuticals combine in a progressive "body mutation" (Newhall 2013; McCormack 1999; Roussel *et al*. 2010; Mauss 1979). This lifestyle constantly shapes daily routines and social identities, reflecting cultural shifts that treat the body as an ongoing project (Velho 1995; Monaghan 1999b; Richardson 2012a). Participants share the outcomes of their bodily experiments, with the "phenomenological body" serving as both a social signifier of adherence to masculinities or aesthetic standards and a lived experience (Turner 1992; Monaghan 1999a; Locks 2012; Jensen 2023; Liokaftos 2017). Such dedication can deviate from societal norms, exposing practitioners to stigma (Bjørnestad, Kandal and Anderssen 2013).

Within this framework, AAS and other IPED are not merely substances but essential instruments of self-fashioning. Although oral administration is more straightforward, injectable use entails a learning curve that signals a deeper commitment to biological transformation (Van de Ven, McVeigh and Winstock 2020). As ritualized practices, injections materialize technical competence while simultaneously functioning as symbolic acts of transformation (Mauss 1973; Turner 1992). They consolidate group identity and solidarity,

even as practitioners rely more heavily on peer-based knowledge networks than on formal medical supervision (Santos and Coomber 2017). Examining chronic injection practices, therefore, offers critical insight into the embodied techniques, moral commitments, and cultural expectations that structure enhancement regimes.

METHODOLOGY: ETHNOGRAPHIC RESEARCH IN A HARDCORE GYM

Participant observation was conducted over the course of one year, from January 2019 to January 2020, at a renowned "hardcore" gym in Juiz de Fora, a medium-sized city in the southeastern state of Minas Gerais, Brazil. The primary objective of the research was to understand the motivations underlying IPED consumption and the lifestyle associated with it. The city serves as a national hub for athletes; its strategic location near major urban centers attracts prominent competitors to its intense, aesthetics-oriented gyms, which function as gathering spaces for those pursuing physical excellence.

As noted in earlier studies (Pates 1996), the research encountered challenges in portraying both legal and illegal drug use. Initial barriers to rapport, resulting from the researcher's physical difference from the bodybuilding ideal and limited familiarity with its specialized vocabulary, were gradually overcome with the support of a trusted intermediary, an approach validated by previous ethnographic works (Monaghan 1999b). This key informant facilitated connections within the community. Snowball sampling, a common strategy for accessing hidden populations (Parker, Scott and Geddes 2019), was employed to deepen engagement with the subculture.

The first section of the article draws on interactions with 14 athletes and aspiring competitors, aged 23 to 35. A recurring theme was the discomfort associated with the chronic use of AAS. For many, injections are an inseparable part of daily life, integrated into training schedules and diet plans. Although athletes discussed a range of lifestyle challenges, the injection routine – shaped by individual tolerance, thresholds, and expectations – remained a constant topic. To explore these dynamics further, semi-structured interviews were conducted every four months with seven athletes (five men and two women) who followed the "blast and cruise" method and had used injectable IPED continuously for at least two years. All interviews and observations were recorded, transcribed, translated, and analyzed. The most revealing testimonies, from interlocutors who allowed the greatest freedom of engagement, were selected.

The participants are predominantly upper-middle class, cisgender, and phenotypically identified as white. Their financial investment in their bodies, including diet, supplements, IPED, and mitigating health substances, ranges from one to five times the national minimum wage. This significant monetary commitment highlights how central bodily investment is to their identity

and social status within the bodybuilding community. Some have competed in bodybuilding, while others simply aspire to achieve a physique that demonstrates dedication to training, whether through an aspirational ideal of beauty or, as one interlocutor remarked, by creating a formidable public impression that makes people "scared."

The second section of the article draws from a local bodybuilding community on WhatsApp, which includes 50 participants. The app, widely used across the Global South, fosters forms of "digital kinship," meaning online social networks built on trust and shared experience (Sinanan and Hjorth 2018). These communities reflect deeper cultural contexts and broader social trends. Examining interactions within this digital space provides insight into how online platforms shape the community's routines and collective events. Using a community-centered approach, the research explores how these environments contribute to the normalization of drug use, influence attitudes toward anabolic agents, and shape harm-reduction strategies (Page and Singer 2010). The analysis leverages the relative anonymity of online settings (Underwood 2017) to focus on conversations and image sharing related to injectable substances.

This multi-sited ethnography combines in-person and virtual data collection (Marcus 2012). Testimonies were gathered through purposive sampling to select participants with relevant experience (Patton 2002). As in any ethnographic inquiry, the data are necessarily shaped by participants' perspectives (Kotzé and Antonopoulos 2021). Nevertheless, the interviews and observations yielded valuable insights into social interactions, enabling nuanced interpretations of context and behaviour (Hammersley and Atkinson 2019). Given the sensitive nature of IPED use, anonymity was ensured through the use of common Brazilian pseudonyms.

The researcher's positionality as a young, middle-class Brazilian cisgender man facilitated access to spaces and conversations that might otherwise have remained inaccessible. Approaching the topic with genuine curiosity, akin to that of a novice IPED user, helped build rapport within the field context. Research on behaviours often labeled as deviant requires a nonjudgmental stance that acknowledges local moralities surrounding substance use, even when health risks are present. Such an approach is essential for producing nuanced and ethically responsible knowledge without imposing external moral frameworks.

THE EXPERIENCE OF CHRONIC INJECTIONS IN BRAZILIAN BODYBUILDING

Social scientists have increasingly examined the social significance of injections. In traditional societies, the act of injecting medicine was often regarded as a potent healing ritual (Reeler 2000). This ritualistic aspect also appears in

Western contexts, from hospitals to prisons. Bienen (2008) explored the ceremonial dimensions of injections in lethal executions, noting how the use of technical jargon and a language of certainty surrounding the procedure created a façade of scientific legitimacy, even when performed by non-medical personnel lacking biomedical training. Thus, the ritualization of the act often imbues it with a sense of authority and legitimacy.

Injections, like all pharmaceutical products, have a social life that extends beyond their medical or therapeutic functions. They carry cultural, social, and symbolic meanings, reflecting the norms, values, and practices of specific contexts. In this sense, they follow distinct trajectories as they become focal points for different groups (Van der Geest, Whyte and Hardon 1996). The act of injecting often transcends biomedical expectations, encompassing ideas of power, identity, self-care, and enhancement. This is illustrated in the testimony of an aspiring athlete preparing for his first amateur competition:

> "Daniel: I'm going to talk about hormones. It all started a while back when I started going to the gym. I trained for two and a half, three years, naturally. I trained anyway, without a diet, training wrong, I started to demand a lot from myself. Today I tell you, part of my insecurity is because of my physique, because of my body. I think I'm handsome, but I think I'm skinny, with a 'little belly.' […] Why did I think about competing in 'men's physique'?[1] Not because I love the sport, not because I want to be an athlete, I don't even have the patience for that, but I agreed because it would be a mechanism, a tool, I found a faster way to get a better physique. Man, until today I haven't succeeded. I'm honest, I've been to about seven nutritionists, I've been to about three endocrinologists and until today I haven't succeeded. But the problem wasn't the nutritionist, it wasn't the doctor, it was consistency […] the only time I succeeded was in those three months I did with a well-known doctor. It gave me surprising results, I was fat, about 27% fat and everything, I went from 27% to 11% in three months, using oxandrolone and testosterone, injecting enzyme, I injected every week, for fat burning… I don't know if it helped, but I did it. […]
>
> Q: How did you feel in this experience?
>
> Daniel: Superman, man, despite not having several significant gains, I felt strong, I would say immortal.
>
> Q: What do you mean?
>
> Daniel: You feel like Superman, you feel unbeatable, I would say I could beat anyone."

1 A category in competitive bodybuilding that emphasizes aesthetics, symmetry, and overall physique over extreme muscle size and definition. Athletes typically wear board shorts and perform quarter turns, allowing judges to assess their physique from multiple angles.

Daniel, unlike other participants in the research, was a relative newcomer to bodybuilding. He was not driven by a lifelong passion for the sport but by a profound sense of personal inadequacy. For him, bodybuilding represented more than the pursuit of a muscular physique; it offered the possibility of transforming his sense of self. Studies show that IPED use often leads to increased confidence and enhanced well-being. While achieving an aesthetically pleasing body is certainly part of that process, Daniel's story points to a deeper transformation. His narrative challenges the idea of the body as a mere vessel for external validation, reframing it as an object of desire, a sculpted commodity meant to be displayed and admired (Kraska, Bussard and Brent 2010; Kotzé and Antonopoulos 2021).

His testimony resonates with longstanding debates in the anthropology of ritual (Turner 1974). He had spent years training naturally, demonstrating commitment to physical development within socially accepted norms. The true liminal threshold, however, was crossed when he began using pharmaceuticals, marking a symbolic rupture from his former self and the established social order, a deliberate transgression of bodily norms. In the liminal state that followed, his body assumed an ambiguous status: no longer purely natural, yet not fully ideal or competitive. Despite the ambiguity, psychological transformation began as he negotiated a new identity between past conventions and future aspirations. The period of uncertainty and possibility epitomizes Turner's concept of liminality, a transitional space where identity remains fluid and transformation unfolds. Within this passage, the body becomes a site of cultural negotiation, embodying tensions between conformity and innovation, control and risk, self-discipline and transcendence. Daniel personified that negotiation when, during preparations for his first competition, he was asked to distinguish between injecting and ingesting substances.

> "Daniel: To ingest is easier, I don't need assistance to take oxandrolone, for example. But the injection is something different, it seems that even the little burning sensation when you inject the liquid implies that you're doing something greater in the attempt to change your body."

For him, injectable steroids represent a profound commitment to the bodybuilding lifestyle, going beyond the simplicity of taking a pill. The act of injecting becomes a symbolic ritual and deliberate practice that underscores dedication to achieving substantial muscle growth. The process of careful preparation, sterilization, and precise technique creates an immersive experience distinct from oral consumption. It signifies heightened engagement combined with the substances' physical effects, amplifying the psychological impact described, intensifying feelings of accomplishment, and reinforcing the pursuit of an idealized physique.

The widespread use of the blast and cruise approach among participants required frequent injections and thus self-administration. It bypassed potential judgment or reluctance from healthcare providers to prescribe or refill these substances. As a result, mastering safe and effective self-injection techniques became a critical skill. To explore this necessity further, we interviewed Leticia, a former bodybuilder and vendor of illicit IPED:

> "Leticia: I'm terrified of injecting myself! [Laughs] It's uncomfortable, you know, but the good part is that when the liquid enters [the muscle], it feels great! But I'm really scared. However, it is indeed a ritual, and you feel like you're in control of your life. Because when you take it, it determines your safety, just like an armor that protects the fragile spirit of insecure men [laughs]. What I like about the administration is the regularity, because when you take it, you think, like, for a week, I'm going to be happy [laughs]. For the people I sell to, happiness or feeling secure, I think the sense of security is more commonly reported. It's like menstruating, in practice, it's a horrible, unpleasant thing, but knowing that you're not pregnant and that a new cycle is about to begin is quite symbolic. Did you understand the central idea?"

Self-administration of IPED can be analyzed through Mary Douglas's (1966) framework of purity and danger, insofar as it transgresses socially constructed boundaries of what is deemed healthy, natural, or safe. For Douglas, notions of pollution and risk arise not from the inherent qualities of substances or actions, but from their violation of culturally defined classificatory systems. Within sports culture, such a lens highlights rituals that simultaneously defy ideals of bodily purity and medical propriety, while creating a controlled and ritualized space in which risk is normalized and even valorized.

Bodybuilders, thus, transform pharmacological routines into symbolic negotiations with danger, redefining what counts as clean or contaminated. The needle and substance, conventionally seen as contaminating, are reconfigured as instruments of discipline and purification. Injecting becomes a liminal rite of passage, an embodied confrontation with danger that stabilizes precarious masculinities and cultivates resilience through intentional self-alteration.

Participants frequently described a duality of emotions: fear and apprehension before the injection, followed by a profound sense of satisfaction as the substance entered their body. On a deeper level, these conflicting feelings symbolize a defiance of Western healthcare norms, which emphasize longevity and the alleviation of suffering. The body becomes a battleground where injecting marks a departure from the dominant moral order, redefining life around intensity and transformation (Weber 1982; Vargas 1998).

The pleasure derived from injections is not solely physical but is tied to the immediate and long-term bodily changes of user's experience. In their narratives, defying conventional healthcare practices becomes inseparable from the drugs' transformative potential, even as participants acknowledge the inherent risks and potential harm.

> "Leticia: Nowadays, having been a bodybuilder myself, I understand what they do and how they feel. I won't lie, I've done it too when I was very immature and naive [laughs]. I used to think that an injection would make me more powerful or resistant than someone who weighed 40kg or was a woman. I would say that this ritual solidifies the abstract idea that you are in a process of control, but you don't know if you are or not, you'll never know. So, when you take the stuff, you have the false sense of being in control because it's something very practical. Let me give you an example: during the three weeks I didn't inject, I had episodes of depression, but today, when I inject, I think to myself, 'I'm free from depression'. I can't deny that it's relieving, but I'm not a recreational user, I'm a chemical dependent."

The sociological concept of addiction extends beyond substance dependence to encompass identity fluidity, agency negotiation, and the moral-political dimensions of drug use (Burraway 2020). Leticia's testimony shows how the ritualization of injection – its procedures, regularity, and link to aesthetic ideals – shapes perceptions of user control. These culturally embedded practices reframe IPED side effects as challenges to overcome rather than signs of helplessness, shifting agency from the substance to the individual even amid "chemical dependency". Her experience also illustrates a liminal state (Turner 1974), where acquiring group knowledge signals transition to a new social status. Within this space, medicinal rituals impose self-discipline and responsibility, both empowering and restraining, curbing potential "abuse" and mitigating AAS risks.

In other terms, the process of injecting liquid substances into the body is embedded in specific cultural practices. For example, preparing the syringe by assembling a sterilized needle and filling it with the chosen substance often deviates from hospital protocols. Bodybuilders may skip rigorous sterilization, opting for simpler hygiene measures such as showering.[2] The injection often involves unconventional sites not typically used in clinical practice, like the chest, calves, or biceps. This is necessary because traditional sites such as the glutes and shoulders can become saturated, rigid, or inflamed from repeated

2 Hygiene practices during injections varied. While all participants acknowledged the importance of sterilizing the application site to prevent contamination, some, influenced by the demands of their lifestyle, occasionally or even consistently skipped this step.

use, causing localized pain. Over time, athletes develop refined expertise in self-administration that goes beyond routine, gaining a nuanced understanding of different IPED, their effects on the body, and potential side effects (Monaghan 2001).

A crucial part of the learning process in bodybuilding comes from mentorship by individuals known as "anabolic coaches" (Gibbs, Cox and Turnock 2022), who play an integral role in the local community. They typically charge monthly or bimonthly fees for ongoing guidance on the proper and effective use of IPED. Their support may be included in broader personal training or offered as a standalone service, ranging from occasional advice to designing complete cycles. Most begin with an initial consultation to assess the client's fitness goals before tailoring their approach (Van de Ven and Mulrooney 2017; Gibbs, Cox and Turnock 2022). In our study, much of the consultancy focused on helping athletes manage health effects linked to IPED use. For example, one athlete shared how his coach recommended a medical intervention to address elevated iron levels caused by a particular drug:

> "Mateus: The worst part of this week was X [coach] telling me to do bloodletting at home. [Laughs] Seriously, this guy is unreal, man [more laughs].
>
> R: How do you do it? Did he explain? I'm laughing, but it's out of nerves.
>
> Mateus: I'm not doing it, man. He said to stick a needle in the vein and let it drip into a container, you're crazy. If needed, I'll go to the blood center, it's five minutes from here. Oh, man, I have my limits, I'd never do that, I don't even know how to find a vein, man. I have the notion of seeing, but I don't have the experience. Let me show you the email:
>
> [Part of the email that the researcher managed to see]
>
> […] Coach Roberto: Get tests to check the reference level […] My advice is for you to look for some video on *YouTube,* you already inject yourself, you can do bloodletting calmly at home. Basically, you put the needle in your vein and let the blood drip into a container, take out a liter or if it's at a very high level, I think 20-30% above the reference, you go to a hospital, and they do it.

The athlete's six years of injection experience led his coach to view him as capable of undergoing more invasive procedures, indicating a heightened tolerance for risk. Unlike a novice, he had developed deep familiarity with bodybuilding's "ethnopharmacology" – the shared cultural knowledge surrounding IPED use (Monaghan 1999a). This knowledge, often acquired through peers, online forums, and informal networks, constitutes a kind of folk pharmacology rooted in lived experience rather than formal medical training. It encompasses not only the technical use of these substances but also their symbolic

significance, the rituals surrounding them, and the moral negotiations that shape their interpretation. In contemporary parlance, some of this aligns with "bro-science", a blend of scientific literacy, deliberate self-experimentation, and iterative learning through trial and error, frequently documented and shared within the community (Underwood 2017; Sá 2023).

This reflects a broader trend in bodybuilding: over time, athletes adopt a belief system that normalizes the pursuit of muscularity and legitimizes the methods used to achieve it, including pharmaceutical use, self-administration, and management of side effects (Bonetti *et al*. 2008; Herlitz *et al*. 2010; Coquet, Roussel and Ohl 2018). Within this worldview, practices such as bloodletting form part of a repertoire that distinguishes casual users from an elite group of "serious" injectors capable of managing high levels of risk (Van Hout, Brennan and Wells 2018; Lupton 1999).

The process also entails submission to pain, discomfort, and side effects. The bodybuilder endures these hardships as part of a disciplined, transformative ritual, much like an initiation in which the individual is reduced to a uniform condition only to be reshaped anew. Injections aim to endow the body with capacities such as increased muscle mass, strength, and definition, reflecting Turner's (1974) idea that after the liminal phase, the participant emerges prepared to navigate a transformed position in life. Mastering self-injection, interpreting the body's responses, and harnessing the transformative potential of these substances constitute a distinct journey requiring active engagement well before results appear (Becker 1973). Gratification is primarily measured through visible bodily changes, often overshadowing the demanding and painful nature of the practices. As Rafael expressed, the pleasure of the process is inseparable from the suffering it entails:

> "[…] you need to have a strong mindset and enjoy it. I think the person must enjoy the process; if they don't enjoy following a diet, training, or sacrificing certain things, there's no point in forcing it. It's not for everyone because of that."

The pursuit of pleasure through self-administered substances often requires cultivating a "resilient mindset". This entails willingly enduring potentially unpleasant experiences while deriving satisfaction from transformative outcomes, such as a sculpted physique and, occasionally, altered behaviours. Like marijuana users, learning to use these substances effectively often involves experimentation, as initial effects may not be inherently pleasurable, with social and cultural factors further shaping preferences (Becker 1973). In some cases, the experience can be sufficiently uncomfortable that users seek ways to mitigate discomfort, for instance by importing specialized injection devices.

"[Context: The interlocutor shows a new medical device used for injections on his phone.]

Rafael: […] This is a thing to *shotar* [to inject] that I saw online. I bought this thing, you just throw the needle into the muscle with force, I don't even feel it. It's like a punch, you know, like those horse vaccines.

R: I've never seen that, but I've seen those insulin injection machines for diabetics, is it like that?

Rafael: It's like a pistol that shoots, I don't know, something like that.

R: Was it expensive? I thought you could just inject with a regular needle.

Rafael: I imported it from abroad, so yeah, it was. But it was worth it, you know. Just to give you an idea, I bought a needle from the pharmacy, and I injected with a 30x7 gauge in the glute. I didn't feel a thing, and that size is like a harpoon, you could kill a rat with it."

Bodybuilders often refer to injecting steroids as "taking a shot", informally adapted in Brazilian circles as the verb "*shotar*". Though casual in tone, the term conceals the seriousness of the act, as users take care to minimize discomfort, sometimes importing costly injection devices. The injection process becomes a ritual imbued with deep symbolic meaning, pursuing not only physical aesthetics but also embodying an intense, almost animalistic engagement with the body. Just as metaphors illuminate experiences of illness (Van Der Geest and Whyte 2011), a bodybuilder's comparison of anabolic steroids to a veterinary vaccine reveals how injections function as a remedy to restore a sense of humanity and confront social inadequacy.

The athletes' lifestyle illustrates how IPED techniques evolve through social and cultural factors, shaped by shared knowledge and personal experience. Injections are not merely drug administration but signify a serious commitment to body enhancement, self-improvement, and bodybuilding's "ethnopharmacology" (Monaghan 1999b). This ideology guides specific procedures and desired outcomes, allowing users to redefine their sense of self (Collin 2016; Hardon and Sanabria 2017). The ritualization of injection routines and their alignment with aesthetic goals foster a social perception of control. Over time, the evolving cultural context normalizes not only the pursuit of muscularity but also the methods used to achieve it, including the management of side effects.

THE CYBERCULTURE OF INJECTIONS IN BRAZILIAN BODYBUILDING

In recent decades, research on cyberculture has grown substantially, reflecting the rising influence of social media and online forums in shaping drug-related discussions. These platforms provide fertile ground for self-help communities, offering anonymous access to information, personal accounts, and harm-re-

duction strategies. Unlike traditional support groups, they enable confidential, in-depth exchanges on sensitive topics often hidden from public and official scrutiny (Hsiung 2000; Smith and Stewart 2012; Andreasson and Johansson 2016).

My entry into the online IPED world began with local bodybuilders in Juiz de Fora, Minas Gerais, Brazil, through a WhatsApp group devoted to bodybuilding culture. Introduced by a friendly athlete, I joined a space functioning as both a social hub and a marketplace. Much of the discussion focused on pharmaceuticals sold by the group's administrator. Particularly striking were the frequent photo exchanges showing meticulously prepared, pre-filled syringes ready for injection. These images served not only as documentation but also as symbolic pledges of loyalty to the supplier, reinforcing trust and exclusivity. They highlighted the performative nature of injection rituals, acting as public affirmations of commitment to the group's ethos.

A recurring theme in the virtual community was the depiction of bodybuilders preparing to administer intramuscular IPED injections. These frequently shared images carried symbolism beyond the literal act, offering a window into the individuals and the culture they represented. They often served as badges of commitment, demonstrating dedication to the relentless pursuit of physical perfection. The pre-injection rituals functioned as declarations of allegiance, visually embodying the sacrifices and determination required to achieve the ideal physique. Moreover, they fostered social connection, enabling individuals to bond with like-minded peers and reinforce shared values within the community.

These photos provide valuable insights into the motivations and symbolic meanings behind IPED use. For example, one image shows a bodybuilder holding a syringe filled with dark-red liquid (Vitamin B12) just before a workout (figure 1). Here, the substance and syringe operate as more than physical tools; they symbolize the promise of elevated performance, enhancing strength, endurance, and intensity during training. Although the injection may cause a burning sensation, it is interpreted as a minor sacrifice for benefits such as increased energy and improved muscle-building capacity. Many bodybuilders hold the belief

Figure 1 – Injectable B12 Vitamin used as a pre-workout. The caption says: "Time for the hellfire" in Portuguese. Source: Screenshot from a private WhatsApp group, collected during fieldwork (2019).

that pre-workout Vitamin B12 injections boost both energy and performance.

Other images (figures 2 and 3), depicting testosterone and human growth hormone use, highlight the aspirational dimension of muscle growth, reflecting the ambition to sculpt the body to its fullest potential. The syringe, poised for use, becomes central to fulfilling this promise of enhancement. Its readiness signals commitment to the daily or weekly ritual integral to both physical and subjective transformation. Different substances carry distinct symbolic values; for instance, human growth hormone is prized for producing a "freak" physique, an extraordinarily muscular and exaggerated body (Liokaftos 2017).

Injections are seamlessly integrated into bodybuilders' daily routines. Carefully timed pinpricks, targeting specific muscle groups, become as essential as workouts and, at times, even rest days. Despite the compelling narrative of enhancement, the reality is often less glamorous. One athlete described his routine with resignation, viewing it as necessary yet tedious and unpleasant. The discomfort and inconvenience of frequent injections, especially during intense cycles, constitute an additional burden on the journey toward the idealized body.

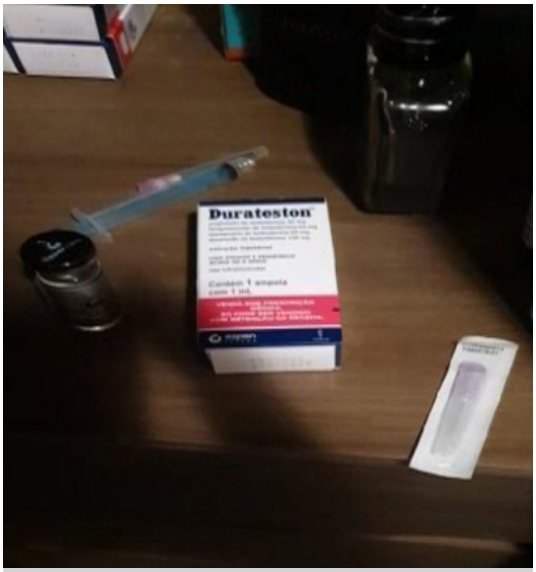

Figure 3 – Eurotropin: Human Growth Hormone. A symbol of status and prestige due to its high price in Brazil. Source: Screenshot from a private WhatsApp group, collected during fieldwork (2019).

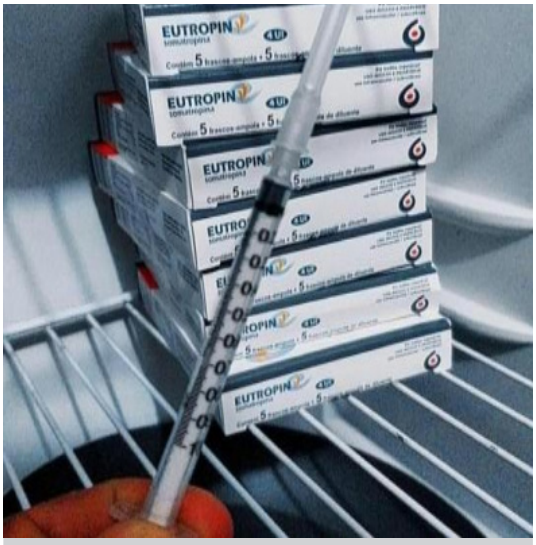

Figure 2 – Durateston, a popular pharmaceutical in Brazil that combines four different esters of testosterone. Source: Screenshot from a private WhatsApp group, collected during fieldwork (2019).

"Carlos: I inject into the muscle I'm training. For example, on back and bicep day, I inject into the bicep. Chest and triceps, triceps. Shoulder day, shoulder, and quadriceps day, quadriceps. On hamstring and glute day, I inject into the glute, but I avoid the hamstring, only in a blast do I inject into the hamstring. On rest days, I also inject into the glute, but I find it the worst part; if I could skip it, I wouldn't do it. It's damn boring, takes time, the worst part for me, I don't like it, not because of pain, but because I inject every day for three years, two years, I don't know […]. I don't feel any pleasure in this sense, only aesthetic pleasure. I don't know anyone who enjoys injecting themselves. For me, this is the worst part of bodybuilding [laughs]. Sure, it's part of the process to get used to it, but it's not cool; it's the worst time compared to training, eating, resting. And the more you use, the worse it gets. If you poke too much, it seems worse, it's uncomfortable because of the oil, you have to keep searching for a spot; in cruise, it's okay, but in blast, you have to search for annoying spots, like the back of the shoulder, hamstring, because you're poking yourself too much. So, I don't feel any pleasure."

Bodybuilders employ careful strategies to minimize injection discomfort, often choosing sites that align with their workout routines. However, this approach can conflict with the demands of "blast" cycles, which require frequent injections, sometimes daily or multiple times per day. The accumulation of scar tissue and oil deposits makes finding suitable injection points increasingly difficult and painful. Consequently, bodybuilders may resort to unconventional sites, such as the calves or chest, to circumvent these issues.

Injection frequency becomes a ritual shaped by the specific IPED used, cycle duration, and dosage. Participants emphasized the importance of proper technique – including site selection, angle, and timing – and often sought guidance from experienced athletes or online resources (Piatkowski *et al*. 2023). As bodybuilders gain experience, their sense of agency grows, allowing them to navigate injection routines with greater confidence. This evolving expertise helps them refine techniques, manage discomfort, and optimize cycle effectiveness. Over time, they develop a nuanced understanding of their bodies' responses, enabling informed decisions about injection sites, timing, and dosages.

"Samuel: I started injecting when I was 15 or 16 years old, as I got into the 'hardcore' gym. At that time, I didn't know how to inject, how to clean the injection site, so I got help from some more experienced guys. In this case, I also bought the steroids from them, started cycling, and stayed that way for a long time, maybe about six years cycling once or twice per year. Then, as I got older, I started doing blast and cruise with some guys as I got to know the work of a coach. In this case, he argued that doing blast

> and cruise was a better choice than turning the HPT axis [3] on and off using cycles. So, I had to start learning about injections, as I couldn't keep injecting every day with a friend, it was a necessity for me. […] I've never had a serious problem to this day. By injecting daily during the blast phase, the most I've had was a local infection, but it was probably because of the type of steroid I was using, there was probably contamination inside the vial itself."

In the world of hardcore gyms, initiation into IPED often resembles a coming-of-age ritual. Newcomers rely heavily on experienced users or "steroid mentors", who share knowledge about injection techniques, dosing, drug combinations, and associated risks. Such mentorship reinforces how these gyms function as self-regulating communities with norms centered on harm reduction (Van de Ven and Mulrooney 2017; Gibbs, Cox and Turnock 2022).

Samuel's IPED use intensified after he began consulting a former elite bodybuilder, leading him to pay for monthly consultations. The arrangement signaled a deeper commitment to his physique and a shift toward adopting the blast and cruise method. For Samuel, continuous IPED use was not an escalation but a rational and less disruptive alternative to traditional cycles.

Despite this calculated approach, athletes often rely on unproven beliefs passed down within the community (Goldstein 1990; Monaghan 2001). Coaches play a key role in legitimizing chronic injections, as their guidance shapes how bodybuilders perceive and adopt these methods. Their influence ultimately reinforces the integration of these practices into training routines and the broader bodybuilding culture.

> "Roberto [bodybuilding coach]: Dude, people need to know that applying a little bit every day is fine, we have six muscles that are very easy to inject: Two medial deltoids, two lateral vastus muscles, and two in the glutes. So basically, it's one injection per week in each place. There's no reason to be lazy about this process. A student asked me the other day if injecting into the vastus muscle every day causes problems. It can cause inflammation, but if it doesn't, it's fine; it's a small amount. I used to do it a lot during cruise cycles. There's not much risk with injections; a lot of people are afraid, but intramuscular injection is very straightforward. If you make a mistake in the injection, the worst that can happen is hitting a nerve; it's a horrible sensation, you black out for a second, and automatically you withdraw, but it' just for a second."

3 It refers to the hypothalamic-pituitary-thyroid (HPT) axis, a complex feedback loop regulating thyroid function. Steroids, particularly AAS, can disrupt the HPT axis through various mechanisms (Tan and Scally 2009).

Roberto's role within the community assumed an almost medical dimension, as he provided strategies to mitigate risks, including reviewing blood work and instructing proper injection techniques. He offered comprehensive guidance across different phases of bodybuilding, supporting athletes during both bulking (muscle gain) and cutting (fat loss) cycles in preparation for competition. His extensive knowledge and proven track record made him highly sought after by athletes striving to reach their physique goals while minimizing potential drug-related harm (Gibbs, Cox and Turnock 2022).

Roberto's influence extended beyond his direct clients. He frequently shared advice in online communities, often framing concerns as mere laziness. For instance, he portrayed injections as straightforward procedures, downplaying potential risks and treating serious possibilities, such as hitting a nerve, as minor, temporary discomforts. In doing so, he overlooked the genuine anxieties and lived experiences of users, effectively normalizing practices that broader society might label as deviant.

INJECTIONS AS INITIATIONS: LIMINAL JOURNEYS IN BODYBUILDING

Victor Turner's (1974) theory of ritual provides a compelling analytical lens for understanding how young bodybuilders come to adopt the chronic use of injections and performance-enhancing substances. The process unfolds through a preliminal phase of separation, in which the athlete deliberately moves beyond naturalized bodily limits and conventional training norms. This decision constitutes a symbolic rupture with a prior state of corporeal normality, marking the transition from disciplined cultivation to technologically mediated transformation.

During this stage, the athlete faces both physical and social challenges: intensified training regimes on the one hand, and immersion in bodybuilding's experimental *ethos* on the other. It is at this juncture that the pursuit extends beyond conventional sporting practices and begins to reorganize multiple dimensions of everyday life, including sleep patterns, dietary discipline, and the continuous monitoring of bodily performance in daily gym activities and related practices. Initiating drug use, particularly through injections, mirrors ritual practices in which novices are separated from ordinary social existence (Turner 1974). The act of injection itself functions as a rite of passage, marking entry into a specialized and risky domain governed by new moral values, hierarchies of embodiment, and forms of technical competence.

The liminal phase follows. In this stage, the aspirant acquires the technical skills and practices associated with drug use. This structured process produces measurable outcomes such as increased muscle mass or decreased body fat, but its deeper significance lies in the transformation of self, a trajectory toward the idealized figure of a "Superman". The individual occupies an ambiguous

threshold where both body and identity are fluid. Each injection, although deliberate, transforms the body into a site of inscription, where discipline and endurance reshape the self. Pain and side effects are experienced as symbolic trials that deconstruct the old self and prepare it for reconstruction.

Reincorporation occurs as the bodybuilder returns to the social world transformed. This change is collective, grounded in shared experiences that are often hidden from mainstream society and expressed within close-knit communities. Turner's concept of *communitas* captures this bond, a relationship among equals characterized by recognition, solidarity, and mutual support. It is a community forged through shared sacrifice, including the pain of injections, rigorous training, and social stigma. Through this process, bodybuilders are symbolically reborn, physically altered, and socially redefined. Their new identity is earned through endurance, mastery of knowledge, and social acknowledgment.

Anthropologically, this trajectory illustrates how individuals embody a contemporary form of asceticism, defined by strict discipline and self-regulation. Medicine plays a central role in this remaking of the self. The athlete internalizes a bio-ascetic regime rooted in biomedical knowledge, which blurs the boundary between body and subjectivity. What was once internal, such as mind or soul, becomes externalized and inscribed directly onto the flesh (Ortega 2003). Bodybuilding exemplifies this transformation: identity is intentionally expressed through the body, which becomes a visible, sculpted signature of selfhood. Strength and aesthetics emerge as highly valued outcomes, and the individual becomes a manager of a body that manifests personal truth, influencing self-esteem, social identity, and cultural recognition (Courtine 1995; Iriart, Chaves and Orleans 2009).

The use of injectables in bodybuilding is culturally and symbolically structured. Injections require precise anatomical knowledge, careful timing, and deliberate intent. Beyond their physical effects, they convey meaning, reflecting struggles with body image and self-perception, and offering a means of reclaiming agency within societal pressures for the ideal physique. Although the community values injections for their performance-enhancing potential, self-administration is rarely effortless. Athletes employ strategies to minimize discomfort, including specialized equipment and targeting specific muscle groups. Mastery develops over time through observation, social learning, and shared practice within the community.

From preparation to refined technique, athletes acquire a sense of control that justifies the use of substances despite potential risks. This knowledge encompasses not only procedural skill but also an understanding of desired outcomes: a balanced, well-proportioned physique with optimal muscle mass and low body fat. The visible transformation often obscures the effort involved, while communal reinforcement strengthens the practice. Sharing

syringes, needles, and pre-filled substances functions as a form of social validation. Self-injection evolves into a symbol of dedication, signalling commitment to the ideal body. Coaches further normalize these practices by emphasizing efficacy and downplaying discomfort. Together, these dynamics allow athletes to reconcile a potentially hazardous or socially contested practice with broader cultural values.

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