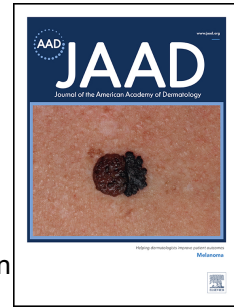


# Journal Pre-proof

Hidradenitis Suppurativa in Sexual and Gender Minorities: A Review and Considerations for Providers

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22 carcinoma

23 **Abstract:** The literature on hidradenitis suppurativa (HS) in sexual and gender minorities (SGM)  
24 remains sparse. This review article aims to discuss critical factors for providers to consider in  
25 LGBTQIA patients with HS, including associated comorbidities, gender-affirming hormonal  
26 therapy, squamous cell carcinoma, infections in HIV-positive patients, and creating a welcoming  
27 clinic for SGM patients.

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28 **Capsule Summary:**

- 29       ● There is limited literature pertaining to managing hidradenitis suppurativa (HS) in sexual  
30       and gender minority (lesbian, gay, bisexual, transgender, queer, intersex, asexual, Two-  
31       spirit, non-binary) patients. This review aims to address that gap by discussing  
32       considerations for dermatologists caring for SGM patients living with HS.
- 33       ● Dermatologists will be more aware of SGM-inclusive considerations when caring for  
34       SGM patients living with HS.

35

36           Hidradenitis suppurativa (HS) is a chronic, debilitating, inflammatory skin disease  
37 characterized by recurring, painful nodules, abscesses, draining sinus tracts, and scars. It  
38 primarily affects intertriginous areas, including the axilla and anogenital regions, and is likely  
39 caused by the obstruction and subsequent rupture of hair follicles.<sup>1</sup> Few studies have addressed  
40 HS in sexual and gender minority (SGM) patients. SGMs include but are not limited to  
41 LGBTQIA (lesbian, gay, bisexual, transgender, queer, intersex, asexual), Two-spirit, and non-  
42 binary individuals. With the number of LGBTQIA-identifying patients increasing, this  
43 manuscript reviews and discusses considerations for dermatologists caring for SGM patients  
44 with HS. Current guidelines recommend screening for acne, dissecting cellulitis of the scalp,  
45 pilonidal disease, pyoderma gangrenosum, depression, anxiety, suicide, smoking, substance use  
46 disorder, polycystic ovarian syndrome, obesity, dyslipidemia, diabetes mellitus, metabolic  
47 syndrome, hypertension, cardiovascular disease, inflammatory bowel disease, spondylarthritis,  
48 and sexual dysfunction in patients with HS.<sup>2</sup> In this review, we discuss these comorbidities in the  
49 context of SGM patients. We then cover broader, SGM-specific considerations that are not  
50 currently specified in these guidelines, including gender-affirming hormonal therapy, squamous  
51 cell carcinoma, and infections in HIV-positive patients.

## 52 **Acne**

53           Acne is associated with HS. SGM patients have an elevated risk of anxiety, depression,  
54 and suicidal ideation compared to their cis-gender, heterosexual counterparts.<sup>3</sup> In teenagers, these  
55 mental health issues can be exacerbated by the presence of acne.<sup>4</sup> While treatments for acne and  
56 HS have some overlap, it is important to treat both the concurrent acne and HS, as acne can  
57 exacerbate mental health. In SGM patients, providers may acknowledge the disparities in mental

58 health and openly discuss and address these psychosocial impacts when treating SGM patients  
59 with acne and HS.

60 In transgender youth, acne can frequently trigger gender dysphoria.<sup>3</sup> Gender dysphoria is  
61 the psychosocial distress associated with the desire to be another gender. While not all patients  
62 who identify as transgender experience gender dysphoria, it is important for dermatologists to be  
63 aware of these mental health issues when treating acne and HS in those patients. Furthermore,  
64 gender-affirming hormonal therapy can influence the course of acne. Testosterone can trigger or  
65 worsen acne, while estrogen and antiandrogen hormonal therapy may improve it.<sup>4</sup>

66 Moreover, while isotretinoin is a standard treatment for severe, nodular, or recalcitrant  
67 acne, it has also been used as an off-label treatment for HS with varying effects.<sup>5</sup> For  
68 dermatologists considering treating HS and acne concurrently with isotretinoin, it is important to  
69 discuss the risks of isotretinoin exacerbating depression or suicidal ideation and the need for  
70 routine screening with the benefits of potential improvement in depression or suicidal ideation  
71 related to acne.<sup>6</sup>

72 When considering prescribing isotretinoin to transgender patients assigned female at birth,  
73 dermatologists may need to be aware of several considerations that may influence treatment.  
74 While the evidence that systemic isotretinoin can delay wound healing remains controversial,<sup>7</sup>  
75 dermatologists may wish to ask transgender patients of any plans to undergo gender-affirming  
76 surgery and to discuss the risks and benefits of doing so concurrently or shortly after isotretinoin  
77 treatment. Further, because of the teratogenic side effects of isotretinoin use, it is crucial for  
78 dermatologists to elicit a thorough sexual history from SGM patients. Dermatologists should be  
79 aware that not all transgender patients choose to affirm their gender with surgery. Some  
80 transgender men may have the reproductive potential to become pregnant if they have not elected

81 to undergo a total hysterectomy or bilateral salpingo-oophorectomy. To facilitate productive  
82 discussions, it is important to consider that, while iPLEDGE functions as an important resource,  
83 some challenges associated with iPLEDGE in transgender populations include the need to  
84 register as either a “person who can become pregnant” or a “person who cannot become  
85 pregnant”, the requirement of two forms of contraception with abstinence from sex with men as  
86 one option, and the potential for language primarily oriented toward cis-gendered female  
87 patients.

### 88 **Dissecting Cellulitis of the Scalp, Pilonidal Disease, and Pyoderma Gangrenosum**

89 More research inclusive of SGM patients is needed on dissecting cellulitis of the scalp,  
90 pilonidal disease, and pyoderma gangrenosum. .

### 91 **Depression, Anxiety, and Suicide**

92 HS is universally detrimental to patients’ quality of life. Abscesses, inflamed nodules,  
93 scarring and contractures, secondary infections, and friction from clothing all contribute to pain.  
94 In addition, feelings of shame or disgust with the appearance, drainage, or odor of HS lesions  
95 may compel patients with HS to socially isolate themselves. Accordingly, this isolation often  
96 negatively impacts sexual health, triggering or exacerbating any preexisting anxiety or  
97 depression. As SGM patients are at higher risk of psychiatric comorbidities, such as anxiety and  
98 depression,<sup>8-9</sup> a diagnosis of HS may further compound discrimination and feelings of shame.  
99 Rates of completed suicide are more than double in patients with HS<sup>8</sup> and similarly elevated in  
100 SGM individuals.<sup>9</sup> Mental health screening and support are important aspects of care for SGM  
101 patients with HS. Dermatologists can contribute to normalization by openly discussing anxiety,  
102 depression, chronic pain in HS, and sexual orientation, gender identity issues, and diverse sexual  
103 behaviors in a supportive manner. Further, a multidisciplinary approach with pain management,

104 and psychiatry or therapy may be helpful when appropriate. Groups that specifically cater to  
105 SGM patients with HS can help raise awareness and facilitate support in an LGBTQ-safe  
106 environment.

### 107 **Smoking and Substance Use Disorder**

108 HS is associated with smoking and an increased prevalence of substance use disorder,  
109 including an increased use of alcohol, opioids, and cannabis.<sup>10</sup> SGM patients coping with HS  
110 may experience compounding effects as they are more likely to have a history of smoking  
111 cigarettes and using substances than cis-gender, heterosexual individuals.<sup>11-13</sup> Patients most often  
112 cite chronic pain and the psychosocial impacts of HS as reasons they smoke or use.<sup>10</sup> It is  
113 therefore crucial to assess for substance use disorders, address underlying causes where possible  
114 (such as chronic pain), and facilitate multidisciplinary support where appropriate (including  
115 colleagues with expertise in mental health and in substance use disorder).

### 116 **Obesity**

117 Obesity can influence the prevalence and severity of HS, so screening and counseling on  
118 weight loss are crucial components of managing HS. SGM patients may experience the  
119 psychosocial stress associated with being overweight or obese more profoundly if stigma from  
120 their body weight compounds with stigma for their sexual orientation or gender identity. Some  
121 SGM individuals, specifically lesbian and bisexual women, have been shown to have higher  
122 rates of being overweight or obese.<sup>14</sup> In addition, sexual minority men and gender non-  
123 conforming individuals report higher rates of eating disorders and body dysmorphia.<sup>15</sup> One  
124 approach to these discussions is to frame the role obesity plays in the severity of HS, although  
125 this may be a more productive conversation after the first visit once rapport has been established  
126 with the patient. Dermatologists may find it useful to recommend or refer SGM patients to a



127 mental health professional or a nutritionist to improve and facilitate successful lifestyle  
128 modifications.

### 129 **Metabolic Syndromes and Cardiovascular Disease**

130 HS is also associated with systemic conditions, including cardiovascular disease (CVD)  
131 and metabolic syndrome. Sexual minority females have baseline risks for metabolic syndrome  
132 and metabolic syndrome risk factors (obesity, smoking, heavy drinking, and depression) higher  
133 than heterosexual women.<sup>16</sup> Gender-affirming hormonal therapy (GAHT) in transgender patients  
134 is associated with worsening CVD, including increased thromboembolic risk<sup>17</sup> and sex-specific  
135 changes in metabolic syndrome.<sup>18</sup> While some data suggests an increased risk of myocardial  
136 infarction or ischemic stroke in transgender females taking GAHT, research on the  
137 cardiovascular effects of GAHT is limited by the lack of cohort studies inclusive of SGM  
138 patients and appropriately matched controls.<sup>19</sup> Routine screening in patients with HS for these  
139 systemic conditions is essential and even more critical to address if those patients are on GAHT.

### 140 **Inflammatory Bowel Disease and Spondylarthritis**

141 Our recommendations are limited by the absence of studies on sexual and gender  
142 minorities with inflammatory bowel disease or spondylarthritis.

### 143 **Sexual Dysfunction**

144 HS is associated with sexual dysfunction in women and erectile dysfunction in men.<sup>20</sup>  
145 Studies on sexual dysfunction in SGM patients are lacking and are limited to men who have sex  
146 with men. Compared to men who have sex with women, men who have sex with men are more  
147 likely to experience higher rates of erectile dysfunction and anodyspareunia during receptive anal  
148 intercourse.<sup>21</sup> Sexual dysfunction in men who have sex with men could be further compounded  
149 by HS comorbidities including pilonidal disease and anal abscesses, or by the presence of active

150 lesions on the external genitalia. Patients with HS report feelings of shame and embarrassment  
151 with skin lesions affecting intimate areas of their body. These feelings can hinder participation in  
152 sexual activities and limit sexual desires. Impaired sexual health can contribute to higher rates of  
153 depression, anxiety, and or suicidal ideation by reducing quality of life.<sup>22</sup> Higher rates of  
154 psychosocial distress can further interfere with sexual health.<sup>22</sup> Dermatologists may find it  
155 helpful to elicit a thorough and accurate sexual history to assess the sexual health of SGM  
156 patients with HS. A multidisciplinary approach to treat and manage both HS and its associated  
157 psychosocial comorbidities can help improve sexual health.

### 158 **Gender Affirming Hormonal Therapy in Gender Nonconforming and Transgender** 159 **Patients**

160       Hormonal therapy with anti-androgens (e.g. finasteride, dutasteride, spironolactone) or  
161 oral contraception is an effective adjunctive therapy in HS management in select patients. For  
162 gender non-conforming and transgender patients with HS, dermatologists need to understand  
163 their patients' gender goals as it may influence how to treat HS in the context of gender  
164 affirming hormone therapy. Patients whose gender identity does not align with their sex assigned  
165 at birth can have a wide range of ways they desire to transition medically or socially. Some may  
166 not wish to transition at all. Dermatologists should remain open to these possibilities and  
167 recognize that patients' plans may change over time. Individuals with HS who were assigned  
168 male at birth and seek to transition medically may benefit from starting anti-androgens early in  
169 their HS treatment to synergize their gender-affirming hormonal therapy (GAHT) with their HS  
170 management. Conversely, for patients with HS who were assigned female at birth and seek  
171 masculinizing characteristics, anti-androgens may not be an appropriate treatment option. Having  
172 an open discussion with patients about their gender-affirming goals is crucial to inform these

173 decisions. Dermatologists may find it useful to partner with gender-affirming endocrinologists (if  
174 available) or whoever is managing their patients' hormonal treatments in these cases to optimize  
175 GAHT with HS therapy.

### 176 **Squamous Cell Carcinoma in the LGBTQ Community**

177 Squamous cell carcinoma (SCC) is a rare but serious complication of chronic HS. While  
178 HS is more common in women, SCC more commonly occurs in men with HS.<sup>23</sup> HS-associated  
179 SCC arises in chronically inflamed wounds or scar tissue and usually presents in the gluteal or  
180 perianal regions, an example of a Marjolin's ulcer.<sup>23</sup> SGM individuals are less likely to receive  
181 preventative services for cancer<sup>24</sup> and have a higher self-reported lifetime prevalence of skin  
182 cancer,<sup>25,26</sup> with many engaging in the use of indoor tanning beds. In addition, increased cigarette  
183 smoking in SGM patients, as previously discussed, and human papillomavirus (HPV) infection  
184 confer additional risk for SCC incidence. For these reasons, it is crucial that SGM patients with  
185 HS routinely follow with a dermatologist for full-body skin examinations, even in cases of well-  
186 controlled disease, with special attention to areas affected by their HS. While anal Pap smears for  
187 men who engage in receptive anal intercourse are not currently recommended, they have shown  
188 promise as potential screening tools for anal carcinoma.<sup>27</sup>

### 189 **Serious Infections in HIV-Positive Patients with HS**

190 While HS itself is not an infection, the disruption of the skin's normal barrier function  
191 and certain medications used to treat HS, such as adalimumab and other immunosuppressants,  
192 predispose patients with HS to serious infections and the risk of sepsis.<sup>28</sup> SGM patients are  
193 disproportionately at risk for infections, including HIV, that can significantly alter the clinical  
194 course and presentation of chronic skin conditions like HS and their complications, including  
195 secondary bacterial infections. Additionally, HIV-induced changes to the immune system may

196 lead to HS involvement of atypical sites, such as the face.<sup>29</sup> Dermatologists can proactively ask  
197 patients about their HIV status, treatment, and risk factors, including pre-exposure prophylaxis  
198 (PrEP) and antiretroviral therapy (ART). They can also consider HS when lesions appear in  
199 atypical sites. Opportunistic infections in HIV-patients with HS may be more challenging to  
200 manage medically and may influence the choice of antibiotic treatment for HS. Dermatologists  
201 should be aware of possible interactions and side effects associated with the use of systemic  
202 medications in HS, such as adalimumab or other immunosuppressants, in patients on  
203 antiretroviral therapy. Currently, most of the data regarding the safety of adalimumab in HIV-  
204 positive patients comes from case reports.<sup>30-32</sup> More studies are needed to evaluate the safety of  
205 adalimumab in HIV-positive patients with HS. Regular monitoring and collaboration with other  
206 healthcare providers, including a patient's primary care physician or infectious disease provider,  
207 is critical for quality patient care.

208         In addition, dermatologists may consider tuberculosis or other mycobacterial infections  
209 on their differential diagnosis. Cutaneous tuberculosis, such as scrofula, may mimic the  
210 presentation of HS in patients living with HIV.<sup>33</sup>

211

### 212 **Unique Considerations for Transgender Patients**

213         HS happens in parts of the body that may be uncomfortable for trans patients to be  
214 examined, especially the groin and chest. Trans patients may be reluctant to show these parts of  
215 their body, be uncomfortable with these parts of their body, and may have mistrust in healthcare  
216 professionals based on past experiences. Discussing physical exams and procedures in advance,  
217 including the order in which they will occur, may help alleviate anxiety and empower SGM  
218 patients to voice their concerns. Engaging patients in this conversation in visits prior to the

219 physical exam may also help establish trust. Dermatologists should be aware that some patients  
220 may have preferred terms they use to refer to their body parts that differ from medical terms.  
221 Whenever possible, dermatologist should use patients' preferred terms when explaining each  
222 step of the exam. In addition, dermatologists can proactively ask SGM patients if they prefer  
223 distraction techniques, such as listening to music, or if they prefer to be fully engaged during the  
224 exam, such as having access to a mirror when the provider is examining intimate body parts.  
225 Dermatologists may also consider having an observer in the room during the examination.  
226 Whenever possible, the observer should be someone of the patient's preferred gender and/or  
227 someone the patient is comfortable with to provide support.

228         For transgender individuals with HS seeking gender-affirming genital surgery or breast  
229 augmentation or removal, it is important to control HS to optimize surgical outcomes, reduce  
230 infection risk, and minimize scarring.

231         Laser hair removal has been used for management of HS and may already be a part of the  
232 patient's gender-affirming treatment plan, either aesthetically or pre-operatively. Importantly,  
233 some insurance policies may cover laser hair removal for gender-affirming care but not for HS,  
234 so dermatologists may wish to see which indication (if any) would be covered.

235         Transgender men appear to be at higher risk of developing or exacerbating HS after the  
236 initiation of testosterone, although this data is limited to case reports.<sup>34</sup>

## 237 **Summary**

238         A summary of our key considerations and recommendations can be found in Table 1. It is  
239 worth noting that the literature is limited, and more studies are needed to address the gaps in  
240 knowledge of SGM health.

241

Evidence	Recommendation
<p>Acne can exacerbate anxiety, depression, suicidality, and/or gender dysphoria in SGM patients. Gender-affirming hormonal therapy (GAHT) may trigger or worsen acne. Isotretinoin is used to treat severe, recalcitrant acne and off-label for HS.</p>	<p>A multidisciplinary approach in managing concurrent acne and HS is recommended with psychiatry and endocrinology.</p> <p>Ask transgender patients about their goals. Do they plan to undergo gender-affirming surgery? If so, talk about the evidence of isotretinoin delaying wound healing. Prepare transgender patients for the possible cis-gendered language of iPLEDGE and frame discussions around contraception using the teratogenic effects of the medication. Be aware that transgender men may have elected against a hysterectomy and have the potential to become pregnant.</p>
<p>SGMs are more likely to be overweight or obese and to use tobacco and other substances, likely compounded by eating disorders, chronic pain, and minority stress.</p>	<p>A multidisciplinary approach with mental health and/or nutrition can be beneficial when recommending lifestyle modifications (weight loss and smoking or substance cessation) to treat HS</p>
<p>Gender minorities may be interested in using GAHT to transition medically. GAHT can worsen cardiovascular disease and metabolic syndrome. Sexual minority women have higher risk of metabolic syndrome and metabolic syndrome risk factors.</p>	<p>Optimize GAHT with HS management. For example, if a patient assigned male at birth seeks to transition medically, HS can be managed with anti-androgen hormonal therapy earlier in the disease course. Routine screening in SGM patients with HS for these associated systemic complications</p>
<p>Anxiety, depression, and sexual dysfunction commonly seen in HS can be compounded by stigma associated with being a SGM. Rates of completed suicide are higher in both populations.</p>	<p>Openly screen for anxiety, depression, and sexual dysfunction, and discuss sexual orientation and gender identity issues</p>
<p>SGMs are less likely to receive preventative cancer screenings, have a higher self-reported prevalence of skin cancer, and higher rates of HPV infection and tobacco use. Evidence for anal Pap smears as a screening tool for anal carcinoma remains limited.</p>	<p>Routine full body skin examinations, even if HS is well-controlled.</p> <p>No recommendation to use anal Pap smears for screening at this time, although evidence is promising, and this may be a future possibility. Worth a discussion with patients.</p>
<p>SGMs are disproportionately at risk for infection with HIV</p>	<p>Proactively ask SGMs about HIV status and treatment, including pre-exposure prophylaxis. Keep HS on the differential when lesions appear on atypical sites. Consider possible reactions of systemic medications with antiretroviral therapy.</p>
<p>Transgender patients with HS may be uncomfortable being examined.</p> <p>Transgender patients may seek gender affirming surgeries.</p> <p>Laser hair removal or isotretinoin are used to manage HS.</p> <p>Transgender men appear to be at higher risk of developing or exacerbating HS after initiating testosterone.</p>	<p>Ask patients how they feel about certain parts of the physical exam needed to stage and grade HS. If the patient is uncomfortable, set a follow-up visit for the exam.</p> <p>Transgender patients may already be using hair removal for aesthetic or pre-op reasons.</p> <p>Data is limited to case reports but screening for HS after the initiation of testosterone and getting HS well-controlled prior to the initiation of testosterone will be essential in this patient population.</p>

242 Table 1. Key Evidence and Recommendations for Dermatologists Caring for SGMs with HS. GAHT = Gender-

243 affirming hormonal therapy. HPV = human papillomavirus.

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