Hidradenitis suppurativa surgery

Clinical Policy ID: CCP.1231

Recent review date: 3/2025

Next review date: 7/2026

Policy contains: Hidradenitis suppurativa; Hurley staging system; skin conditions; acne inversus.

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Coverage policy

Surgery for hidradenitis suppurativa is clinically proven and, therefore, may be medically necessary when all of the following criteria are met (Alikhan, 2019; Gulliver, 2016; Zouboulis, 2015):

- Member has a confirmed diagnosis of hidradenitis suppurativa from a dermatologist.
- Member exhibits moderate-to-severe disease (typically Hurley stage II or III).
- Disease is refractory to antibiotic treatments, acne washes and medicine, and bleach baths of 5 – 10 minutes.
- Disease is refractory to conservative medical therapy, including, but not limited to:
    - Local consistent hygiene practices.
    - Use of antiseptic and antiperspirant agents (e.g., 6.25% aluminum chloride hexahydrate in absolute ethanol).
    - Application of warm compresses with sodium chloride solution or Burow's solution.
    - Cessation of cigarette smoking.

- Medications: oral and topical antibiotics, anti-inflammatories, antiandrogens and other hormonals, retinoids, biologics, corticosteroids, intralesional triamcinolone, spironolactone, or finasteride.
- Weight reduction in obese patients.
- Wearing of loose-fitting clothing.
- Laser hair removal.

Limitations

No limitations were identified during the writing of this policy.

Alternative covered services

- Primary care services (i.e., patient education).
- Specialty services (i.e., dermatologic service).

Background

Hidradenitis suppurativa is a chronic inflammatory skin disease causing painful, malodorous nodules and abscesses that form scar tissue and sinus tunnels and tracts with a devastating impact on the member's quality of life. It contributes to chronic pain, depression, body image issues, substance use disorders and an increase in suicidal rates as compared to the general public. Locations of the lesions are generally in the axillae and groin fold areas mostly, but can occur in others. A diagnosis is made when the condition occurs at least twice in a six month time frame (Orenstein, 2020).

Hidradenitis suppurativa affects up to 4% of the population worldwide (Marvel, 2019). In a study of 47,690 U.S. patients, hidradenitis suppurativa was more than twice as prevalent among females than males (137 versus 58 per 100,000), was about three times more prevalent among African Americans than whites (296 versus 95 per 100,000); and was most prevalent among those in their 30s (172 per 100,000) (Garg, 2017). An average delay time of seven years in diagnosis is due to the early stages of this disease being mistaken for other conditions (Ballard, 2022). According to Marvel and associates, data suggests when compared with Medicare/Commercial; Medicaid beneficiaries experience a particularly high co-morbidity burden as well as expensive and interrupted use of outpatient healthcare resources that may be associated with poorer outcomes (Marvel, 2019).

Onset at the time of puberty has led several authorities to cite hormonal changes (occlusion of the apocrine duct by a keratinous plug, and defects of the follicular epithelium) as an etiologic factor in the development of hidradenitis suppurativa. An estimated 30% to 40% of persons with the disease report a family history. Cormibidities include obesity, diabetes, insulin resistance, glucose tolerance, and hyperlipidemia (Ballard, 2022; Scuderi, 2017).

The oldest, and simplest, system for classification of hidradenitis suppurativa is the Hurley staging system (Scuderi, 2017). Hurley stage I is a single lesion without sinus tract formation. Stage II manifests as more than one lesion or area, but with limited tunneling. Stage III is defined as multiple lesions, with more extensive sinus tracts and scarring.

Hidradenitis suppurativa is difficult to treat due to the pervasive inflammation with abscesses and inflammatory nodules, which leads to disruption of normal skin and subcutaneous architecture with sinus tract formation and, in severe cases, with extensive scarring (Jovanivic, 2017). Treatment varies based on presentation and severity of symptoms. It can include systemic and topical antibiotics, acne washes/medicines, hormonal therapy, analgesics, immunosuppressant therapy and surgical intervention (Ballard, 2022). Surgery is is considered gold standard for recurrent hidradenitis suppurtiva (Claessens, 2022).

In refractory situations, a surgical procedure including one of the following may be necessary:

- Incision and drainage, during which the surgeon drains one or two lesions or cuts them out.
- Excision and primary closure (or deroofing) surgery.
- Radical excision, which involves surgically cutting out the hidradenitis suppurativa with a margin of normal-looking skin, and covering the area with a skin graft or a skin flap.

Surgical excision goal is complete eradication of involved skin and subcutaneous tissues, and avert any possibility of malignant change (i.e., squamous carcinoma); however, controversy surrounds the best procedural approach. Moderately severe axillary lesions can be treated adequately by excision and primary closure. This approach is particularly popular because it allows both axillae to be treated simultaneously in the many patients with bilateral involvement.

In the acute phase; surgical intervention should be limited to incision, drainage, and deroofing of the affected area, and more extensive surgery should be reserved for the silent chronic phase. Reconstruction after radical excision may be indicated to maintain function, reduce contracture deformity, and provide good aesthetic outcomes (Scuderi, 2017).

Findings

Based on the European Dermatology Forum guidelines (Gulliver, 2016) for the management of hidradenitis suppurativa, all patients should be offered adjuvant therapy as needed (pain management, weight loss, tobacco cessation, treatment of super-infections, and application of appropriate dressings). The treating physician should be familiar with disease severity scores, especially Hurley staging. The need for surgical intervention should be assessed in patients with higher Hurley stages of disease.

A European guideline recommends that locally recurring lesions can be treated by classical surgery or laser techniques; for widely spread lesions, medical treatment either as monotherapy or in combination with radical surgery is more appropriate (Zouboulis, 2015).

The North American clinical management guidelines for hidradenitis suppurativa, developed by the United States and Canadian Hidradenitis Suppurativa Foundations, recommend that patients with moderate-to-severe disease, typically defined as Hurley stage II or III, complete a trial of conservative medical therapy for at least 12 weeks before considering surgery. Studies have demonstrated that combination antibiotic regimens can achieve response rates in the range of 71% to 93%, while medications that target the immune response yield clinical improvements in 42% to 59% of patients at 12 weeks, in contrast with lower rates of 26% to 28% seen in control groups. These findings emphasize that individuals with advanced disease are less responsive to non-surgical treatments (Alikhan, 2019).

In a study of 846 persons with hidradenitis suppurativa, 45.5%, 41.5%, and 13.0% were classified as Hurley stage I, II, and III, respectively. Severity was associated with male sex ($P < .001$), disease duration ($P < .001$), body mass index ($P = .01$), smoking pack-years ($P = .001$), and axillary ($P < .001$), perianal ($P < .001$), and mammary lesions ($P = .03$) (Schrader, 2014). These severity risk factors could help identify patients who need close monitoring and who would benefit from early, aggressive therapy.

A 2016 Cochrane review of 12 trials covering 15 treatment modalities for hidradenitis suppurativa found no randomized controlled trials examining the timing of surgery or optimal surgical procedure (Ingram, 2016). A systematic review of various treatments of hidradenitis suppurativa, including excisional surgery, produced only four (of 62) studies that met criteria for strong scientific evidence (Rambhatla, 2012).

In a review of 118 surgical procedures to 57 patients with hidradenitis suppurativa, 44 patients (77.2%) showed good tolerance of the operation and during the postoperative period, compared to only one (1.8%) reporting unsatisfactory tolerance. A total of 51 (89.5%) expressed willingness to undergo additional surgery in the event of lesion recurrence. Complete recovery was observed in 34 (59.7%) and partial recovery in 18 (31.6%), and no

improvement in five (8.8%) after two years, leading authors to conclude that surgery is effective and well tolerated (Beniek, 2010).

Recurrence after surgery was the topic of a systematic review and meta-analysis of 22 articles. The percent of cases with a documented recurrence included 13.0% for wide incision, 22.0% for local incision, and 27.0% for deroofing. Subjects in the wide excision group had a much lower recurrence rate using flaps and grafting (8% and 6%), compared to 15% for flaps (Mehdizadeh, 2015).

A retrospective study of 50 procedures on 32 patients with hidradenitis suppurativa indicated that antibiotics and minor surgery such as abscess drainage with proper irrigations during the acute inflammatory phase, followed by stabilizing the patient before wide surgical excision reduced recurrence (only six of 32) and complications (Alharbi, 2012).

An outcomes study of 255 persons with hidradenitis suppurativa included those with surgery (n = 149) and those treated with antibiotics/anti-inflammatories (n = 87). Surgical patients had a significantly better Sartorius (pain) score (*P* = .001), while the score for non-surgical patients was not significantly better (*P* = .58). The percent of patients with at least minimally important differences in quality of life scores was also higher in surgical patients (55% versus 28%) (Grimstad, 2019).

An American College of Surgery review of 2011-2016 hidradenitis suppurativa surgical patients (n = 2,594) included 54.2% with incision and drainage, 39.2% with debridement, 1.2% with skin graft, and 5.4% with flap reconstruction. Skin graft and flap reconstruction had the highest complications and longest operation time. Flap reconstructions by plastic surgeons compared to general surgeons had significantly shorter operation times and lower transfusion rates (Ruan, 2018).

In 2021, we removed six references from the policy and added three systematic reviews to the policy (Bouazzi, 2020; Ovadja, 2020; Riddle, 2021). All three systematic reviews compared the recurrence rates for different surgical excision strategies for hidradenitits suppurativa. Heterogeneity, poor-quality reporting, and methodological limitations of the evidence prevented firm conclusions about the relative recurrence rates associated with different surgical techniques that have varying degrees of morbidity. Therefore, the optimal surgical strategy from the research cannot be determined. No policy changes are warranted.

In 2022 a systemic literature search of 218 articles of which six met the inclusion criteria was performed to assess patient reported outcomes of surgical intervention. The tools researched were Dermatology Life Quality index, the Derriford Appearance Index Scale-24, and Work Productivity and Activity Impairment were reviewed. Results yielded poor methodological validation and quality since measurement instruments have not been fully developed for hidradenitis (Claessens, 2022).

In 2024, we found a systematic review and meta-analysis that included 13 studies (n = 535) participants to examine complications of surgical management for hidradenitis suppurativa. The estimated average complication rate was 11.1% (95% confidence interval 6.4%-16.9%) and the recurrence rate was 16.2% (95% confidence interval 9.1%-24.9%) (Tang, 2023). A separate systematic of 23 articles that focused on pediatric hidradenitis suppurativa patients (n = 81) assessed the efficacy and safety of procedural treatments. The most studied interventions were negative pressure wound therapy (n=30), surgical excision with skin graft/flap (n=19), and endoscopic electrode or laser treatment (n=11). While procedural management showed promise, more high-quality randomized controlled trials are needed, especially for minimally invasive options, to guide treatment for pediatric hidradenitis suppurativa (Masson,2023). No policy changes are warranted.

In 2025, we found two systematic reviews that compared surgical interventions for hidradenitis suppurativa. One review analyzed 32 studies (n = 6,922) and demonstrated that wide local excision reduced recurrence risk by

43% compared to limited local excision (n = 398) and by 50% compared to incision and drainage (n = 364), while primary closure was associated with a 24% lower recurrence risk than split-thickness skin grafting (n = 555). The review also noted considerable variability in study design, small sample sizes, and confounding factors such as disease severity, comorbidities, and operator experience (Li, 2025). The second review encompassed 121 studies (n = 9,642) and found that reconstructive procedures using tissue flaps significantly lowered recurrence rates compared to direct suturing, with advanced reconstructive techniques including skin grafting and open wound healing yielding superior long-term outcomes and functionality (Cucu, 2024). We also found a guideline United States and Canadian Hidradenitis Suppurativa Foundations (Alikhan, 2019) which warranted a policy change.

References

On Febuary 18, 2025, we searched PubMed and the databases of the Cochrane Library, the U.K. National Health Services Centre for Reviews and Dissemination, the Agency for Healthcare Research and Quality, and the Centers for Medicare & Medicaid Services. Search terms were ”hidradenitis suppurativa” (MeSH), “dermatology,” (MeSH) “skin abscess,” “acne inversus,” and “skin surgery.” We included the best available evidence according to established evidence hierarchies (typically systematic reviews, meta-analyses, and full economic analyses, where available) and professional guidelines based on such evidence and clinical expertise.

Alikhan A, Sayed C, Alavi A, et al. North American clinical management guidelines for hidradenitis suppurativa: A publication from the United States and Canadian Hidradenitis Suppurativa Foundations: Part II: Topical, intralesional, and systemic medical management. *J Am Acad Dermatol*. 2019;81(1):91-101. Doi:10.1016/j.jaad.2019.02.068.

Alharbi Z, Kauczok J, Pallua N. A review of wide surgical excision of hidradenitis suppurativa. *BMC Dermatol*. 2012;12:9. Doi: 10.1186/1471-5945-12-9.

Ballard K, Shuman VL. Hidradenitis Suppurativa. In*: StatPearls*. StatPearls Publishing. https://pubmed.ncbi.nlm.nih.gov/30521288/. Published July 15, 2022. Updated April 17, 2023.

Beniek A, Matusiak L, Okulewicz-Gojlik D, Szepietowski JC. Surgical treatment of hidradenitis suppurativa: Experiences and recommendations. *Dermatol Surg*. 2010;36(12):1998-2004. Doi: 10.1111/j.1524-4725.2010.01763.x.

Bouazzi D, Chafranska L, Saunte DML, Jemec GBE. Systematic review of complications and recurrences after surgical interventions in hidradenitis suppurativa. *Dermatol Surg.* 2020;46(7):914-921. Doi: 10.1097/dss.0000000000002323.

Claessens AAE, van Alphen TC, Lapid O, Hoogbergen MM, Ovadja ZN. Use of patient-reported outcome measures in the surgical treatment of hidradenitis suppurativa: A systematic review. *Dermatol Surg*. 2022;48(4):411-417. Doi:10.1097/DSS.0000000000003431.

Cucu CI, Ciobotariu I, Paradisi A, et al. Wound closure techniques after wide excision for hidradenitis suppurativa: a systematic review and meta-analysis. *Int J Dermatol*. 2024; Epub ahead of print. Doi: 10.1111/ijd.17553..

Garg A, Kirby JS, Lavian J, Lin G, Strunk A. Sex- and age-adjusted population analysis of prevalence estimates for hidradenitis suppurativa in the United States. *JAMA Dermatol*. 2017;153(8):760-764. Doi: 10.1001/jamadermatol.2017.0201.

Grimstad O, Tzellos T, Dufour DN, et al. Evaluation of medical and surgical treatments for hidradenitis suppurativa using real-life data from the Scandinavian registry (HISREG). *J Eur Acad Dermatol Venereol*. 2019 Jun;33(6):1164-1171. Doi: 10.1111/jdv.15353.

Gulliver W, Zouboulis CC, Prens E, Jemec GB, Tzellos T. Evidence-based approach to the treatment of hidradenitis suppurativa/acne inversa, based on the European guidelines for hidradenitis suppurativa. *Rev Endocr Metab Disord*. 2016;17(3):343-351. Doi: 10.1007/s11154-016-9328-5.

Ingram JR, Woo PN, Chua SL, et al. Interventions for hidradenitis suppurativa: A Cochrane systematic review incorporating GRADE assessment of evidence quality. *Br J Dermatol*. 2016;174(5):970-978. Doi: 10.1111/bjd.14418.

Li K, Peri K, Piguet V, et al. Comparative analyses of hidradenitis suppurativa surgical methods: A systematic review and meta-analysis. *J Am Acad Dermatol*. 2025; :S0190-9622(25)00137-9. Doi:10.1016/j.jaad.2025.01.057

Marvel J, Vlahiotis A, Sainski-Nguyen A, Willson T, Kimball A. Disease burden and cost of hidradenitis suppurativa: A retrospective examination of US administrative claims data. *BMJ Open*. 2019;9(9):e030579. Doi: 10.1136/bmjopen-2019-030579.

Masson R, Parvathala N, Ma E, et al. Efficacy of procedural treatments for pediatric hidradenitis suppurativa: A systematic review. *Pediatr Dermatol*. 2023; 40(4): 595-605. Doi:10.1111/pde.15331

Mehdizadeh A, Hazen PG, Bechara FG, et al. Recurrence of hidradenitis suppurativa after surgical management: A systematic review and meta-analysis. *J Am Acad Dermatol*. 2015;73(5 Suppl 1):S70-S77. Doi: 10.1016/j.jaad.2015.07.044.

Orenstein LAV, Nguyen TV, Damiani G, Sayed C, Jemec GBE, Hamzavi I. Medical and surgical management of hidradenitis suppurativa: A review of international treatment guidelines and implementation in general dermatology practice. *Dermatology*. 2020;236(5):393-412. Doi:10.1159/000507323.

Ovadja ZN, Jacobs W, Zugaj M, van der Horst C, Lapid O. Recurrence rates following excision of hidradenitis suppurativa: A systematic review and meta-analysis. *Dermatol Surg.* 2020;46(8):e1-e7. Doi: 10.1097/dss.0000000000002403.

Rambhatla PV, Lim HW, Hamzavi I. A systematic review of treatments for hidradenitis suppurativa. *Arch Dermatol*. 2012;148(4):439-446. Doi: 10.1001/archdermatol.2011.1950.

Riddle A, Westerkam L, Feltner C, Sayed C. Current surgical management of hidradenitis suppurativa: A systematic review and meta-analysis. *Dermatol Surg.* 2021. Doi: 10.1097/dss.0000000000002892.

Ruan QZ, Chen AD, Singhal D, Lee BT, Fukudome EY. Surgical management of hidradenitis suppurativa: Procedural trends and risk factors. *Surg Res*. 2018;229:200-207. Doi: 10.1016/j.jss.2018.04.007.

Schrader AM, Deckers IE, van der Zee HH, Boer J, Prens EP. Hidradenitis suppurativa: A retrospective study of 846 Dutch patients to identify factors associated with disease severity. *J Am Acad Dermatol*. 2014;71(3):460-467. Doi: 10.1016/j.jaad.2014.04.001.

Scuderi N, Monfrecola A, Dessy LA, Fabbrocini G, Megna M, Monfrecola G. Medical and surgical treatment of hidradenitis suppurativa: A review. *Skin Appendage Disord*. 2017;3:95-110. Doi: 10.1159/000462979.

Tang B, Huang Z, Yi Q, Zheng X. Complications of hidradenitis suppurativa after surgical management: A systematic review and meta-analysis. *Int Wound J*. 2023; 20(4):1253-1261. Doi: 10.1111/iwj.13945.

Zouboulis CC, Desai N, Emtestam L, et al. European S1 guideline for the treatment of hidradenitis suppurativa/acne inversa. *J Eur Acad Dermatol Venereol*. 2015;29(4):619-644. Doi: 10.1111/jdv.12966.

Policy updates

4/2016: initial review date and clinical policy effective date: 7/2016

3/2017: Policy references updated.

2/2018: Policy references updated.

1/2019: Policy references updated.

3/2020: Policy references updated.

3/2021: Policy references updated.
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