
Dermatology

Six Things Clinicians and Patients Should Question

by
Canadian Dermatology Association
Last updated: April 2023



1 Don't routinely prescribe antibiotics for bilateral lower leg redness and swelling

Cellulitis is commonly misdiagnosed and may be incorrectly applied as a diagnosis in 1 in 3 cases. There are many causes of 'pseudocellulitis', including: stasis dermatitis, acute lipodermatosclerosis, lymphedema, eczematous dermatitis, contact dermatitis, gout and tinea pedis. The most common among these is stasis dermatitis which generally affects the bilateral lower legs. In the setting of bilateral lower leg skin changes, causes of 'pseudocellulitis' should be considered.

2 Don't routinely prescribe topical combination corticosteroid/antifungal products

Topical corticosteroid/antifungal products in cream or ointment formulations contain high-potency corticosteroids generally considered inappropriate for skin conditions affecting the face and skin folds. These have been prescribed for suspected superficial fungal infections and diaper dermatitis. However, evidence demonstrates inferior clinical efficacy, higher recurrence rates and harmful side effects (skin thinning and systemic absorption) compared to topical antifungals alone. In practice, their use may complicate diagnosis and prolong treatment. Suspicion of fungal infection should be confirmed by skin scraping, and fungal infections with substantial itch may be treated with a short-term topical mild to moderate corticosteroid prescription.

3 Don't routinely use topical antibiotics on a surgical wound.

Post-surgical wounds in dermatology may be closed with stitches or allowed to heal in from the base. Most dermatologic procedures result in wounds that are classified as 'non-contaminated' and have low baseline potential for infection. For wounds closed with stitches, the potential harms (allergic contact dermatitis to topical ingredients, antibiotic resistance) outweigh the marginal reduced risk of postoperative infection achieved by use of antibiotics applied to the skin. Only wounds that show symptoms of infection (purulence, swelling, spreading redness, wound breakdown and systemic symptoms) should receive appropriate antibiotic treatment.

4 Don't prescribe systemic anti-fungals for suspected onychomycosis without mycological confirmation of dermatophyte infection

Fungal nail infections account for half of all causes of nail changes (onychodystrophy). The other half can be attributed to conditions such as onychogryphosis (secondary nail thickening), psoriasis and lichen planus. Health care providers vary in their ability to correctly predict fungal toenail infections which can be confirmed by simple microscopy, fungal culture, or histology. Systemic antifungals indicated for moderate to severe nail infection can result in a variety of drug-drug interactions and confer increased risk for heart and liver failure. Confirming a fungal infection can prevent unnecessary treatment with avoidable harms and guide the diagnosis of other possible causes.

5 Don't use oral antibiotics for acne vulgaris for more than 3 months without assessing efficacy.

Antibiotics are the most common systemic agent prescribed for the treatment of acne, employed for their antibacterial and anti-inflammatory effect. Prolonged antibiotic courses can lead to disruption of the normal microbiome, increased rates of upper respiratory infection and has been linked to the development of other systemic disorders. There are also rising rates of antibiotic resistance to pathogenic acne bacteria. For moderate or more severe acne warranting systemic treatment, the effect of oral antibiotics should be reassessed after 3 months to gauge progress. If ineffective, treatment should be modified to other systemic medications such as anti-androgens (spironolactone), combined oral contraceptive pills or retinoids. Use of oral antibiotics should always be combined with topical benzoyl peroxide and/or a topical retinoid.

6 Don't order unnecessary blood tests (ie. complete blood counts and basic metabolic panels) for the routine monitoring of isotretinoin in otherwise healthy individuals treated for acne.

Laboratory abnormalities like CBC abnormalities (anemia, thrombocytopenia, leukopenias), hypertriglyceridemia, and transaminitis have been reported to be associated with isotretinoin when treating acne. These associations have led to uncertainty on the appropriate monitoring of patients and variation in clinical practice. Evidence suggests monitoring a complete blood count to be unnecessary in otherwise healthy individuals treated for acne with isotretinoin, as when

abnormal values occur they are generally transient or remain stable with continued treatment. Rare reports of clinically significant CBC abnormalities are likely idiosyncratic reactions or due to another etiology such as post-infectious neutropenia in adolescents. Furthermore, a Delphi consensus study among acne experts advises against routine basic metabolic panels, GGT, bilirubin, albumin, total protein, LDL, HDL, or CRP monitoring as they are unlikely to change management. Further, these unnecessary tests add significant costs and may be a burden on patients. This consensus recommends monitoring triglycerides and ALT at baseline and once peak dose is attained. If normal, it does not need to be repeated monthly, and it is not required at the end of treatment. If abnormal, then it is warranted to continue monitoring to follow these parameters, although most cases remain transient and reversible in otherwise healthy patients treated for acne.

How the list was created

A working group of Canadian Dermatology Association (CDA) members was created based on interest in the topic of resource stewardship in Dermatology. The working group undertook a review of Choosing Wisely Dermatology specialty recommendations in other jurisdictions, followed by a focused review of published literature with the keywords evidence-based medicine, value-based healthcare, and dermatology. From this aggregated list of recommendations, items that were inappropriate for our jurisdiction and disputed by most recent evidence were excluded. Five guidelines were selected for the 'core recommendations' and an additional five guidelines were included in a 'supplemental list'. Reviewers varied in practice type and geography were asked to consider the following criteria in evaluating the recommendations: relevance to dermatology, frequency of occurrence and potential for harm. Reviewers were asked to agree or disagree with the core recommendations and propose a replacement from the supplemental list or another source if there was disagreement. The final consensus list was then approved by the CDA Board of Directors and presented at the CDA 2018 Annual Conference.

Sources

- 1 Levell NJ, et al. Severe lower limb cellulitis is best diagnosed by dermatologists and managed with shared care between primary and secondary care. *Br J Dermatol*. 2011 Jun;164(6):1326-8. PMID: [21564054](#).
Baibergenova A, et al. Hospitalizations for cellulitis in Canada: a database study. *J Cutan Med Surg*. 2014 Jan-Feb;18(1):33-7. PMID: [24377471](#).
Ko LN, et al. Effect of Dermatology Consultation on Outcomes for Patients With Presumed Cellulitis: A Randomized Clinical Trial. *JAMA Dermatol*. 2018 May 1;154(5):529-536. PMID: [29453872](#).
Hirschmann JV, et al. Lower limb cellulitis and its mimics: part II. Conditions that simulate lower limb cellulitis. *J Am Acad Dermatol*. 2012 Aug;67(2):177.e1-9. PMID: [22794816](#).
- 2 Greenberg HL, et al. Clotrimazole/betamethasone dipropionate: a review of costs and complications in the treatment of common cutaneous fungal infections. *Pediatr Dermatol*. 2002 Jan-Feb;19(1):78-81. PMID: [11860579](#).
Alston SJ, et al. Persistent and recurrent tinea corporis in children treated with combination antifungal/ corticosteroid agents. *Pediatrics*. 2003;111(1):201-3. PMID: [12509578](#).
Wheat CM, et al. Current trends in the use of two combination antifungal/corticosteroid creams. *Pediatrics*. 2017 Jul;186:192-195. PMID: [28438376](#).
- 3 Saco M, et al. Topical antibiotic prophylaxis for prevention of surgical wound infections from dermatologic procedures: a systematic review and meta-analysis. *J Dermatolog Treat*. 2015 Apr;26(2):151-8. PMID: [24646178](#).
Gehrig KA, et al. Allergic contact dermatitis to topical antibiotics: Epidemiology, responsible allergens, and management. *J Am Acad Dermatol*. 2008 Jan;58(1):1-21. PMID: [18158924](#).
Norman G, et al. Antibiotics and antiseptics for surgical wounds healing by secondary intention. *Cochrane Database Syst Rev*. 2016 Mar 29;3:CD011712. PMID: [27021482](#).
- 4 Gupta AK, et al. Confirmatory testing prior to initiating onychomycosis therapy is cost-effective. *J Cutan Med Surg*. 2018 Mar/Apr;22(2):129-141. PMID: [28954534](#).
Ameen M, et al. British Association of Dermatologists' guidelines for the management of onychomycosis 2014. *Br J Dermatol*. 2014 Nov;171(5):937-58. PMID: [25409999](#).
Vender RB, et al. Prevalence and epidemiology of onychomycosis. *J Cutaneous Med Surg*. 2006 Nov;10(6):S28-S33.
Gupta AK, et al. Onychomycosis in the 21st century: an update on diagnosis, epidemiology, and treatment. *J Cutan Med Surg*. 2017 Nov/Dec;21(6):525-539. PMID: [28639462](#).
- 5 Zaenglein AL, et al. Guidelines of care for the management of acne vulgaris. *J Am Acad Dermatol*. 2016;74(5):945-73.e33. PMID: [26897386](#).
Asai Y, et al. Management of acne: Canadian clinical practice guideline. *CMAJ*. 2016 Feb 2;188(2):118-26. PMID: [26573753](#).
Barbieri JS, et al. Approaches to limit systemic antibiotic use in acne: Systemic alternatives, emerging topical therapies, dietary modification, and laser and light-based treatments. *J Am Acad Dermatol*. 2019 Feb;80(2):538-549. PMID: [30296534](#).
Barbieri JS, et al. Trends in prescribing behavior of systemic agents used in the treatment of acne among dermatologists and nondermatologists: A retrospective analysis, 2004-2013. *J Am Acad Dermatol*. 2017 Sep;77(3):456-463.e4. PMID: [28676330](#).
- 6 Hansen TJ, et al. Standardized laboratory monitoring with use of isotretinoin in acne. *Journal of the American Academy of Dermatology*. 2016;75(2):323-328. PMID: [27189824](#).
Lake E. JAAD Game Changers: Standardized laboratory monitoring with use of isotretinoin in acne. *Journal of the American Academy of Dermatology*. 2019;80(4):900. PMID: [30521826](#).
Lee YH, et al. Laboratory Monitoring During Isotretinoin Therapy for Acne: A Systematic Review and Meta-analysis. *JAMA Dermatology*. 2016;152(1):35-44. PMID: [26630323](#).
Lee YH, et al. Laboratory Monitoring During Isotretinoin Therapy for Acne: A Systematic Review and Meta-analysis. *JAMA Dermatology*. 2016;152(1):35-44. PMID: [26630323](#).
Shah R, et al. Re-evaluating the need for routine laboratory monitoring in patients taking isotretinoin: A retrospective analysis. *J Am Acad Dermatol*. 2021;85(2):504-506. PMID: [30315820](#).
Xia E, et al. Isotretinoin Laboratory Monitoring in Acne Treatment: A Delphi Consensus Study. *JAMA Dermatology*. 2022;158(8):942-948. PMID: [35704293](#).

About the Canadian Dermatology Association

The Canadian Dermatology Association (CDA), founded in 1925, represents Canadian certified dermatologists. The association provides easy access to a reliable source of medical knowledge on dermatology. CDA exists to advance the science and art of medicine and surgery related to the care of the skin, hair and nails; provide continuing professional development for its members; support and advance patient care; provide public education on sun protection and other aspects of skin health; and promote a lifetime of healthier skin, hair and nails.



About Choosing Wisely Canada

Choosing Wisely Canada is the national voice for reducing unnecessary tests and treatments in health care. One of its important functions is to help clinicians and patients engage in conversations that lead to smart and effective care choices.