

This decision support tool is effective as of October 2014. For more information or to provide feedback on this or any other decision support tool, email certifiedpractice@crnbc.ca

ADULT CELLULITIS

DEFINITION

An acute, diffuse, spreading skin infection involving the deeper layers of the skin and subcutaneous tissue.

POTENTIAL CAUSES

Bacteria: most commonly *Staphylococcus* or *Streptococcus* (GAS), *pasteurella multocida* (dog and cat bite) In B.C., methacillin resistant staph aureus comprises over 25% of staph aureus infections.

PREDISPOSING RISK FACTORS

- Local trauma (e.g., lacerations, insect bites, wounds, shaving)
- Skin infections, such as impetigo, scabies, furuncle, tinea pedis
- Underlying skin ulcer
- Fragile skin
- Immunocompromised host
- Diabetes mellitus
- Inflammation (e.g., eczema)
- Edema secondary to venous insufficiency or lymphedema
- Known methicillin resistant staphylococcus aureus (MRSA) positive (family or household member)

Note: If human, cat or dog bite was the original trauma, see Adult Bites DST.

TYPICAL FINDINGS OF CELLULITIS

History

- Presence of predisposing risk factor(s)
- Area increasingly red, warm to touch, painful
- Area around skin lesion also tender but pain localized
- Edema
- Mild systemic symptoms – low-grade fever, chills, malaise and headache may be present
- Known MRSA positive

CRNBC monitors and revises the CRNBC certified practice decision support tools (DSTs) every two years and as necessary based on best practices. The information provided in the DSTs is considered current as of the date of publication. CRNBC-certified nurses (RN(C)s) are responsible for ensuring they refer to the most current DSTs.

The DSTs are not intended to replace the RN(C)'s professional responsibility to exercise independent clinical judgment and use evidence to support competent, ethical care. The RN(C) must consult with or refer to a physician or nurse practitioner as appropriate, or whenever a course of action deviates from the DST.

Physical Assessment

- Local symptoms:
 - Erythema and edema of area
 - Warm to touch
 - Possibly fluctuant (tense, firm to palpation)
 - May resemble peau d'orange
 - Advancing edge of lesion diffuse, not sharply demarcated
 - Small amount of purulent discharge may be present
 - Unilateral
- Systemic indications:
 - Increased temperature
 - Increased pulse
 - Lymphadenopathy of regional lymph nodes and/or lymphangitis

Diagnostic Tests

- Swab any wound discharge for culture and sensitivity.
- Determine blood glucose level if infection is recurrent or if symptoms are suggestive of diabetes mellitus.

MANAGEMENT AND INTERVENTIONS

Note: Do not underestimate cellulitis. It can spread very quickly and may progress rapidly to necrotizing fasciitis. It should be treated aggressively and monitored on an on-going basis.

Goals of Treatment

- Resolve infection
- Identify formation of abscess
- Check tetanus prophylaxis

Non-pharmacologic Interventions

- Apply warm or cool saline compresses to affected areas qid for 15 minutes for comfort
- Mark border of erythema with pen to monitor spread of inflammation
- Elevate, rest and gently splint the affected limb
- If secondary to edema, consider compression stockings

Pharmacologic Interventions

- Analgesics:
 - acetaminophen 325 mg 1-2 tabs po q4-6 h prn, OR
 - ibuprofen 200 mg, 1-2 tabs po q 4-6 h prn
- Oral antibiotics if no known MRSA or non-purulent cellulitis:
 - cloxacillin 500 mg po qid for 5-7days, OR
 - cephalexin 500 mg po qid for 5-7 days
- Clients with penicillin and cephalexin allergy:
 - clindamycin 300 mg PO QID for 7-10 days

Note: Clindamycin can cause pseudomembranous colitis with diarrhea, severe abdominal cramps and blood or mucous in the stool. Do not use if there is a history of gastrointestinal disease. Client must be advised to seek medical attention immediately if they experience persistent diarrhea, stomach pain or cramping, or notice blood or mucous in the stool during and following treatment with clindamycin.

- Clients with known MRSA or purulent cellulitis:
 - trimethoprim 160 mg /sulfamethoxazole 800mg (DS) 1 tab po bid for 10 days, or
 - doxycycline 100 mg po bid for 5-7 days

Pregnant or Breastfeeding Women (dosing as above)

- Acetaminophen, cloxacillin, cephalexin and erythromycin may be used
- DO NOT USE ibuprofen, trimethoprim 160 mg/sulfamethoxazole 800 mg or doxycycline.

POTENTIAL COMPLICATIONS

- Extension of infection
- Abscess formation
- Sepsis
- Necrotising fasciitis
- Recurrent cellulitis

CLIENT EDUCATION AND DISCHARGE INFORMATION

- Advise on condition, timeline of treatment and expected course of disease process.
- Counsel client about appropriate use of medications (dose, frequency, compliance).

- Encourage proper hygiene of all skin wounds to prevent future infection.
- Stress importance of close follow-up.
- If shaving is the cause, educate the client about shaving with the hair growth.

MONITORING AND FOLLOW-UP

- Follow-up daily until resolving to ensure that infection is controlled.
- Instruct client to return for reassessment immediately if lesion becomes fluctuant, if pain increases or if fever develops.

CONSULTATION AND/OR REFERRAL

- Consult with or refer to a physician or nurse practitioner if:
 - systemic symptoms present or progression of disease is rapid,
 - no improvement after 48 hours of antibiotics,
 - client is diabetic and /or immunocompromised,
 - pain is out of proportion to the clinical findings,
 - cellulitis is over or involves a joint, or
 - any facial cellulitis.

DOCUMENTATION

As per agency policy

REFERENCES

For help obtaining any of the items on this list, please contact CRNBC Helen Randal Library at circdesk@crnbc.ca

More recent editions of any of the items in the Reference List may have been published since this DST was published. If you have a newer version, please use it.

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