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#### FAST FACTS AND CONCEPTS #37

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**Background** Pruritus (itching) is a common and often distressing symptom near the end of life. The itch sensation may arise from stimulation of the skin itch receptor via unmyelinated C fibers, or itch may arise as a central phenomenon without skin involvement (e.g. opioid induced pruritus). Although histamine causes pruritus, many patients with pruritus show no signs of histamine release. Besides histamine, serotonin, prostaglandins, kinins, proteases and physical stimuli have all been implicated as mediators of pruritus.

#### Common Causes

- Dermatological (dryness, wetness, irritation, eczema, psoriasis)
- Metabolic (hepatic failure, renal failure, hypothyroidism)
- Hematologic (iron deficiency, polycythemia, thrombocytosis, leukemia, lymphoma)
- Drugs (opioids, aspirin, drug reactions)
- Infectious (scabies, lice, candida)
- Allergy (urticaria, contact dermatitis, drug reactions)
- Psychogenic

**Management** Management of pruritus involves eliminating the cause when possible. Symptomatic strategies include:

- Moisturizers: Dryness (xerosis) is very common and may exacerbate other causes. The mainstay of treatment is skin hydration. Note: Most OTC preparations only have small amounts of moisturizer—they are mostly water. Serious dryness requires emollients and moisturizers (such as petroleum jelly) that patients find oily or greasy. Nevertheless, they may be applied after bathing, over damp skin, with a superficial covering.
- Cooling agents (e.g. Calamine and/or Menthol in aqueous cream, 0.5%-2%) are mildly antipruritic. They may act as a counterirritant or anesthetic. A more direct way to anesthetize the skin is with the eutectic mixture of local anesthetics lidocaine and prilocaine (EMLA cream).
- Antihistamines may be helpful in relieving itch when associated with histamine release. Morphine causes non-immune mediated histamine release from mast cells. Although there is not much supporting research, many report benefits of combining H1 and H2 receptor subtype antihistamines. These may have central effects as well as peripheral antihistaminergic effects. Doxepin (10-30 mg PO at bedtime), a tricyclic antidepressant, is a very potent antihistamine and may help in more refractory cases.
- Topical steroids may be helpful in the presence of skin inflammation. These are best applied in ointment rather than cream formulations to alleviate dryness. Systemic steroids have been used in refractory cases.
- Other: An old-fashioned but effective remedy is immersion in an oatmeal bath (e.g. Aveeno). More recent pharmacological treatments include cholestyramine for cholestatic pruritus, and in other selected patients, ondansetron, paroxetine or naloxone.

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