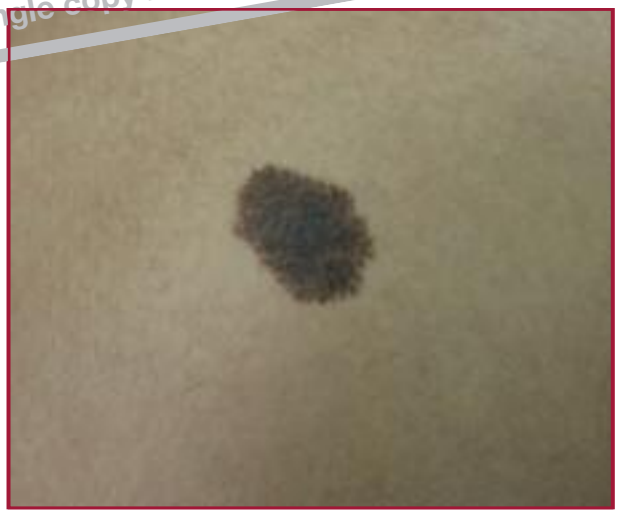
This month — 9 cases:

Case 1

Dark, Back Plaque



On a routine physical exam, a six-year-old boy is noted to have a 3 x 2 cm, dark plaque on his back. His mother claims that the lesion has been present since birth.

What is your diagnosis?

a. Melanoma
b. Acquired melanocytic nevus
c. Café au lait spot
d. Congenital melanocytic nevus

Answer

Congenital melanocytic nevus **(answer d)** is composed of a proliferation of nevus cells that may be present in the dermal-epidermal junction (junctional nevus), in the dermis only (intradermal nevus), or in the junction as well as in the dermis (compound nevus). Congenital melanocytic nevus typically presents as an irregular, light to dark brown lesion that is flat at birth and may become raised over time.

The size of congenital melanocytic nevi can range from less than 1.5 cm to greater than 20 cm, and they increase in size proportionally to a child's growth. Compared to acquired melanocytic nevi, congenital melanocytic nevi tend to be larger in size, present at a lower number per patient, exhibit more varied morphology, and are present either at birth or in the few weeks following birth. While only 1% of small (< 1.5 cm) and medium (1.5 to 19.9 cm) sized nevi are at risk of developing into melanoma, large lesions (> 20 cm) are estimated to be at a risk of 5%.

Hence, the excision of small and medium sized lesions is based on cosmetic concerns, potential for malignant transformation, ease of monitoring, complexity of surgery, parents' anxiety, and clinical history. The "watch and wait" approach is usually adopted for small and medium sized lesions. In contrast, early excision of large sized lesions is often recommended due to cosmetic, psycho/social issues, and the potential for malignant transformation.

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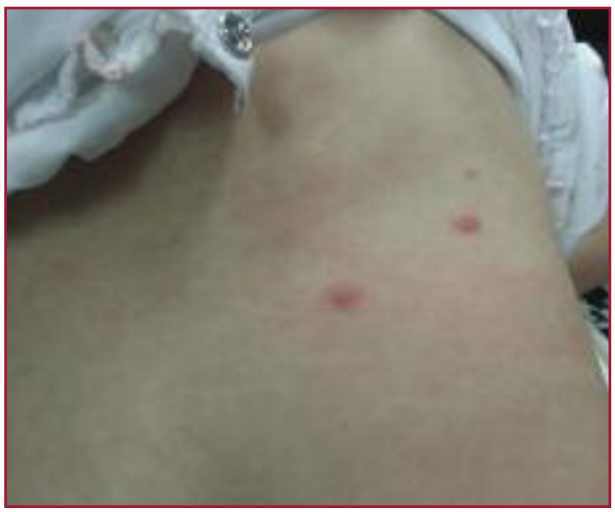
Case 2

Back and Leg Papules and Vesicles

A 10-month-old girl presents with multiple rose-coloured papules and vesicles on her back and legs. The parents recall that, 14 days prior, she had contact with another child with similar lesions.



What is your diagnosis?

a. Chickenpox
b. Atopic dermatitis
c. Insect bites
d. Guttate psoriasis

Answer

Chickenpox **(answer a)** is an infection that is caused by the varicella-zoster virus. It is characterized by the presence of rose-coloured macules that progress to become papules, vesicles, pustules, and, finally, crusts. The distribution of lesions is typically greatest on the trunk. The palms and soles are often not affected. This skin rash typically results in significant pruritus. Prodromal symptoms include minor malaise and low-grade fever. Chickenpox is highly contagious and spreads through direct contact with lesions or through the inhalation of contaminated airborne droplets. The incubation period ranges from 10 to 21 days. The infectivity of the virus is highest 24 to 48 hours prior to the rash, and it decreases in infectivity until all the lesions have crusted.

The most common complication related to chickenpox is secondary skin/soft tissue infections. These include cellulitis, myositis, necrotizing fasciitis, and toxic shock syndrome. These infections are most commonly caused by *Staphylococcus aureus* or *Streptococcus pyogenes* (Group A ß-hemolytic streptococcus). Diagnosis of chickenpox is predominantly clinical, with the presence of pruritic lesions in all stages of development.

Symptomatic treatment of chickenpox includes the use of topical antipruritic agents, such as methanol/pramoxine hydrochloride, or a systemic antihistamine. Fingernails should also be properly trimmed to prevent significant excoriation and secondary bacterial infection from scratching. Otherwise, chickenpox is a self-limiting disease in normally healthy children.

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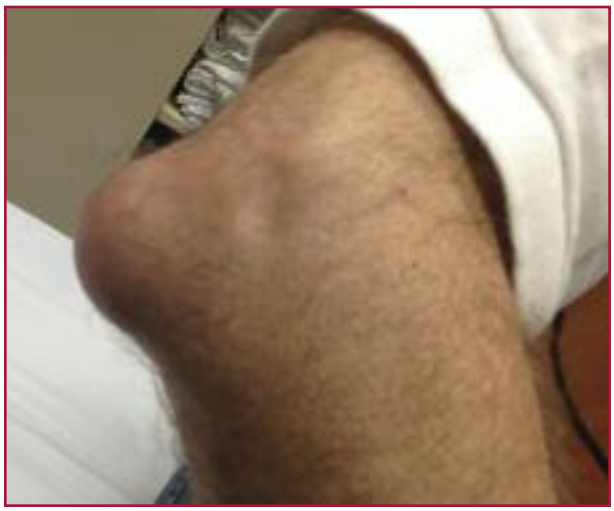
Case 3

Swelling on Posterior Elbow

A 60-year-old male presents with painless swelling on his right elbow that developed over the duration of one week.



What is your diagnosis?

a. Cellulitis
b. Septic arthritis
c. Epicondylitis
d. Olecranon bursitis
e. Lipoma

Answer

Olecranon bursitis **(answer d)** is a common type of bursitis resulting from repetitive strain on the posterior aspect of the elbow. Bursitis is the inflammation or degeneration of a bursa, which acts as a cushion to protect soft tissues from bony prominences.

Diagnosis is purely clinical and patients often present with a swelling prominence on the posterior aspect of the elbow that is usually painless with no redness, warmth, or systemic symptoms.

If it gets infected, this constitutes septic bursitis, which manifests as painful swelling with redness, warmth, and tenderness. When infection is suspected, aspirated fluid should be sent for cell count, gram stain, crystals, and culture sensitivity.

Treatment includes aspiration of fluid. Use of NSAIDs, ice, and rest can help minimize pain. Rest includes avoiding pressure on the elbow (*e.g.*, not leaning on the elbow when getting up from bed). Antibiotics are needed for septic bursitis. The choice of antibiotic should be further guided by the culture and sensitivity result.

Glucocorticoids can be injected to treat recurrent bursitis. Surgical removal of bursa is needed rarely, and it is limited for recurrent and chronic cases.

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Case 4

Nail Infection

A 51-year-old woman comes in after being asked by her nail salon to have her "fungal infection" treated. She reports that her toe and fingernails have had this appearance for many years. She has a history of diabetes and psoriasis. She swims twice per week and admits to walking barefoot in the locker room.

What is your diagnosis?

a. Pseudomonal nail infection
b. Psoriatic nails
c. Traumatic nails
d. Onychomycosis

Answer

Psoriasis is a chronic, inflammatory skin condition that can be accompanied by noncutaneous disease affecting nails and joints. Nails are involved in up to 50% with psoriasis cases, as in this patient's case **(answer b)**. Most patients with nail involvement also have cutaneous psoriasis, though a very small per cent can have psoriatic nails without cutaneous psoriasis.

Psoriatic nails have characteristic features, including pitting of the nail plate, onycholysis (detachment of the nail plate from the nail bed), an "oil drop sign" (reddish-yellow discolouration in the centre of the nail or near an area of onycholysis), subungal hyperkeratosis, and longitudinal ridging. Nail pits can be small or large in size, and they are not exclusive to patients with psoriasis. Colonization of *Pseudomonas* bacteria can lead to a greenish discolouration of the nail plate.

The diagnosis is often based on history and clinical exam. In the absence of a history of psoriasis, it is difficult to distinguish psoriatic nails from onychomycosis. Nail clipping samples can be useful. The differential diagnosis also includes Bowen's disease and squamous cell carcinoma.

Treatment is mainly for cosmetic purposes, although some patients can experience pain due to the pressure of the hyperkeratotic nail plate or the lifting and catching of the onycholytic segment. The thick keratin of the nail can block the absorption of topical agents, making them refractory to treatment in some cases. Topical agents include 5-fluorouracil 1% solution or 5% cream applied b.i.d for six months, calcipotriol, tazarotene, or cyclosporine. Corticosteroid injection into the nail bed (following a digital nerve block) is another option, and this can be repeated every three months. Typical systemic therapies used for cutaneous psoriasis may also be useful for nail psoriasis.

Kimmy Goyal, MD, CCFP, ABFM, is a Family Doctor in Brampton, Ontario.

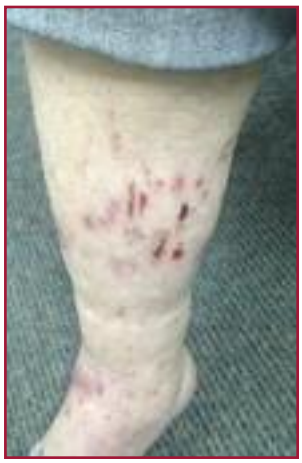
Fenny Goyal, MD, is a Medical Graduate from the Windsor University School of Medicine in Cayon, Saint Kitts-Nevis.

Case 5

Severe, Itchy Leg Rash

A 65-year-old lady presents with a severe, itchy rash that has been getting worse since she was discharged from the hospital three months ago. She was in the hospital for approximately 10 months after having developed a right-sided embolic stroke, which was triggered by the onset of atrial fibrillation.

She is diabetic and her diabetes has always been very well controlled on metformin 1,000 mg b.i.d. She is known to be Hepatitis C positive. She had a severe depression after experiencing the stroke, because she couldn't accept its occurrence. She keeps scratching her right leg with her left leg, mainly at night.



What is your diagnosis?

a. Atopic eczema
b. Prurigo nodularis
c. Lichen simplex chronicus
d. Herpes zoster

Answer

Prurigo nodularis (PN) **(answer b)** is a condition that is triggered by scratching. Patients develop red-brown hyperkeratotic nodules that are several centimeters in length, typically on the extremities.

PN usually occurs in younger or middle-aged females, who often exhibit signs of neurotic stigmatization. The onset of PN begins with piercing pruritis that leads to picking and scratching. Lesions persist for months after the trauma has been discontinued.

The most effective treatment is high-potency corticosteroids under occlusion or intralesional corticosteroids, coupled sometimes with antihistamines.

Other causes of generalized itching, such as renal failure, should be excluded.

Hayder Kubba, MBChB, LMCC, CCFP, FRCS(UK), DFFP, DPD, graduated from the University of Baghdad, where he initially trained as a Trauma Surgeon. He moved to Britain, where he received his FRCS and worked as an ER Physician before specializing in Family Medicine. He is currently a General Practitioner in Mississauga, Ontario.

Case 6

White Spots on Fingernails

An eight-year-old girl is noted to have numerous white spots on her fingernails. The child is asymptomatic and healthy.

What is your diagnosis?

a. Onychomycosis
b. Psoriasis
c. Punctate leukonychia
d. Nail-patella syndrome

Answer

Punctate leukonychia **(answer c)** is characterized by small, white spots on the fingernails. The nail plate remains smooth. The condition occurs almost exclusively in children. Punctate leukonychia is more commonly observed in patients with epilepsy, vitiligo, or renal failure, but the exact etiology is not known. Presumably, repetitive, minor trauma to the nail matrix accounts for some cases. Punctate leukonychia may involve multiple fingernails. The white spots move distally with growth of the nails. Treatment of the condition is not, per se, necessary. Simple reassurance should suffice.

Onychomycosis is a fungal infection of the nail, presenting with nail discolouration, thickening, and detachment of the nail plate. In psoriasis, nail involvement consists of pitting of the nail, onycholysis, and discolouration (*e.g.,* oil drop sign).

However, nail involvement is uncommon in children with psoriasis. Nail-patella syndrome is characterized by nail dysplasia, absence/hypoplasia of the patella, and bony spurs extending from the iliac bones. The nails are 30 to 50% of their normal size and often have triangular or pyramidal lunulae.

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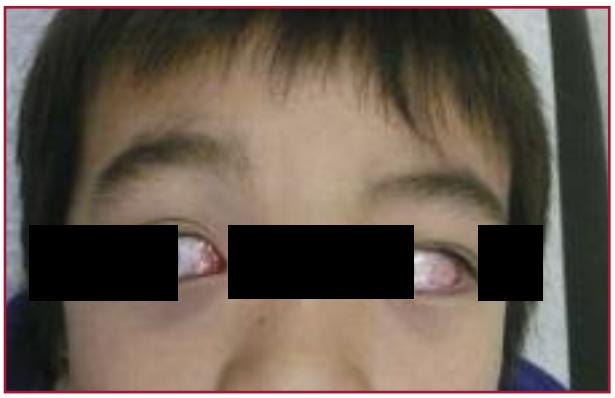
Case 7

Sticky Eyes in the Morning

An eight-year-old boy complains that his eyes are sticky in the morning. According to the child, the stickiness began in his right eye. His left eye became sticky a day after onset in the right eye. There is no history of ocular trauma.



What is your diagnosis?

a. Corneal abrasion
b. Viral conjunctivitis
c. Bacterial conjunctivitis
d. Allergic conjunctivitis

Answer

Bacterial conjunctivitis **(answer c)** is marked by mucous and prurulent discharge, with the patient often complaining of a nonpainful "sticky eye." The infection typically starts unilaterally, but, due to its contagious nature, it can quickly spread to the other eye. The affected conjunctiva is injected. Although most cases are self-limited, prompt and empiric use of broad spectrum antibiotic eye drops accelerates resolution, enhances eradication of causative organisms, reduces person-to-person transmission, and reduces complications.

The hallmark of viral conjunctivitis is bilateral serous discharge and profuse tearing. Matting of the eyelids on awakening is uncommon. Photophobia may be present, and preauricular adenopathy is common. Allergic conjunctivitis is characterized by bilateral ocular/periocular pruritus. Other symptoms include conjunctival burning, tearing, eyelid swelling, and photophobia. Patients with corneal abrasion typically present with a history of ocular trauma and symptoms of foreign body sensation, tearing, and sensitivity to light.

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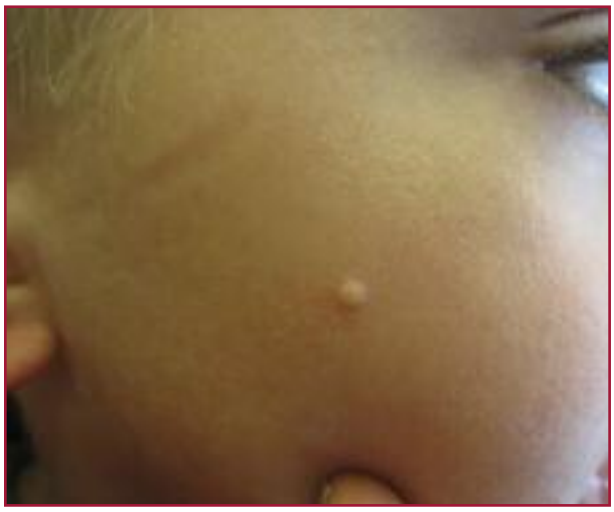
Case 8

Yellow Cheek Papule

A previously healthy three-year-old boy presents with a one-year history of a yellow papule on the left cheek.



What is your diagnosis?

a. Solitary mastocytoma
b. Juvenile xanthogranuloma
c. Nevus sebaceous
d. Verrucae planae

Answer

Juvenile xanthogranuloma (JXG) **(answer b)** is a common and completely benign cutaneous nodule. A JXG presents as a firm, round papule or nodule that is initially erythematous, subsequently developing an orange-brown hue. Over time, these nodules take on the characteristic yellow colour. Typically, lesions of JXG present at birth (20%) or during the first six to nine months of life, and the individual lesions undergo spontaneous involution, usually over one to two years. Multiple JXGs have a higher association with intraocular lesions, and the iris is the site that is most often involved. An abnormality in the colour of the iris or an enlargement of the globe should trigger a prompt ophthalmologic referral.

A solitary mastocytoma is an accumulation of mast cells in the skin and sometimes in other organs. It occurs almost exclusively in infancy. This is most often a reddish-brown or orange nodule or plaque that is rubbery in consistency. Occasionally, there is a history of repeated blister formation on the surface.

Nevus sebaceous is a congenital lesion that occurs mainly on the face and scalp and is composed of hamartomatous sebaceous glands and abortive hair follicles. It usually presents at birth as a yellow nodule or pebbled, hairless plaque on the scalp, forehead, or neck. Multiple nevi sebaceous may occur in association with cerebral, ocular, and skeletal abnormalities as part of the epidermal nevus syndrome. This association has been termed Schimmelpenning syndrome.

Verrucae planae, known as flat warts, occur primarily on the face, neck, arms, and legs. They are usually seen as smooth, flesh-coloured to slightly pink or brown, flat-topped papules measuring 2 to 5 mm in diameter. They vary from a few lesions to several hundred in any given individual. In the bearded areas of men, and on the legs of women, irritation from shaving tends to cause verrucae planae to spread.

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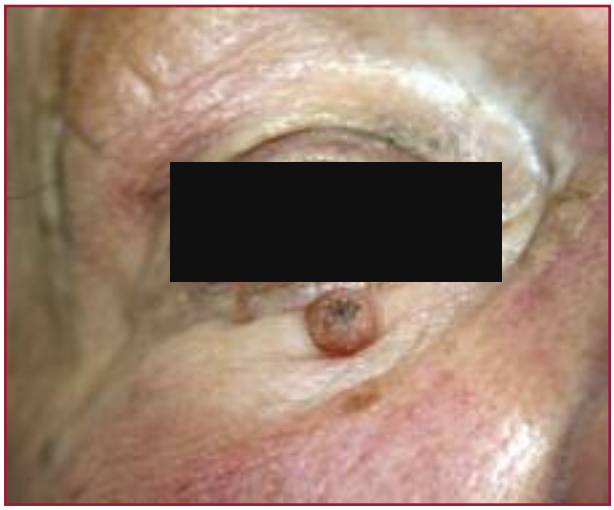
Case 9

A Large Skin Lesion

An 86-year-old female presents with a skin lesion over her right lower lid, which has been rapidly growing over the last three weeks.



What is your diagnosis?

a. Squamous cell carcinoma
b. Molluscum contagiosum
c. Verruca
d. Keratoacanthoma

Answer

Keratoacanthoma **(answer d)** is a rapidly growing tumour, usually arising in the sun-exposed skin of the face or arms. The tumour grows rapidly over a few weeks into a dome-shaped nodule up to 2 to 3 cm in diameter. There is often a keratin plug which may fall out leaving a crater behind.

Keratoacanthoma is an epidermal tumour that resembles squamous cell carcinoma both clinically and histologically. It is believed to originate in the pilosebaceous glands. There is little evidence that keratoacanthoma has malignant potential, but it may mimic histological features of squamous cell carcinoma. Trauma, viral infection, sun exposure, and chronic exposure to tar, pitch, and petroleum have all been implicated as etiologic agents. Untreated, the lesion involutes over two to three months to leave an often irregular and pitted scar. Surgical excision is thought to produce less scarring than leaving the lesion to resolve spontaneously. Also, surgical excision provides the best specimen for histological examination and a good cosmetic result. Other standard treatment measures include curettage and cryotherapy.

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