The Dakota Diabetes Coalition is proud to offer a regular column on diabetes and related concerns every other Friday.

	Dr. Eric Johnson is a family practice doctor in Grand Forks with a special interest in diabetes -- and a special knack for writing. As a member of the Dakota Diabetes Coalition, he has generously made himself available to answer questions through our listserv. If you have comments, or questions for Dr. Johnson to address in future columns, please contact gailhand@q.com Visit the Coalition's website! http://www.ndhealth.gov/diabetescoalition/

Once identified, many are common, treatable

Diabetes underlies many skin problems

Persons with diabetes can have many common skin problems, aside from diabetic ulcerations and cellulitis. Patients may not bring skin conditions to your attention -- since they do not realize that they are related to the underlying diabetes.

As many as one third of all diabetic patients will have some type of skin disorder. That's partly because persons with type 1 diabetes are at higher risk of developing a second autoimmune disease, some of which manifest in skin problems. A couple of examples include systemic lupus erythematosis (SLE) or psoriasis.

Here's a look at some diabetes skin conditions and their treatment. In many cases, improving control doesn't just help the diabetes, but could alleviate the patient's skin condition.

Table 1 Common Skin Conditions in Diabetes

Diabetic dermopathy	Most common
Necrobiosis lipoidica diabeticorum	Most characteristic
Cellulitis (Figure 118-35)	
Vascular ulceration (Figure 118-36)	
Acanthosis nigricans	
Bullosis diabeticorum	
Diabetic thick skin	
Scleroderma	

Adapted from Goldman: Cecil Medicine, 23rd ed.

Allergy to medication should be the provider's first consideration in evaluating a diabetes patient with a rash. Although uncommon with more modern insulin products, allergy can occur. Actually, any oral medication from any category can produce a skin reaction, whether it's anti-diabetic medication, or blood pressure and cholesterol medications. ACE-inhibitors can produce angioedema, characteristically a swelling of the lips or tongue, particularly when combined with pregabalin (Lyrica), a diabetic neuropathy medication.

Persons with type 2 diabetes or pre-diabetes conditions may develop **acanthosis nigricans**, characterized by velvety, darkened skin often on the neck, face, axillae or extensor surfaces of joints. Skin tags are thought to be an acanthosis nigricans equivalent. Weight loss may improve acanthosis nigricans.

Diabetic dermopathy is very common in type 2 diabetes. The classic appearance is tan/red/purple spots on the pre-tibial areas of the lower

extremities, often round, oval, and perhaps confluent. These are generally not thought to be a precursor to skin breakdown or ulceration. These areas are thought to be caused by breakdown of small blood vessels below the skin. A variant of this, **necrobiosis lipoidicans diabeticorum** occurs more often in women, and often have a raised appearance. This may be pruritic and have breakdown or fissures, risking infection. Topical preparations of corticosteroids, antibiotics, or wound healing agents may be prescribed.

Fungal infections, usually the common yeast Candida albicans, may be a presenting symptom for patients with diabetes. These reddened areas are often pruritic, and usually occur in skin folds, including the anal area, or present as vaginal discharge. They can be treated with oral or topical antifungal agents. Improving diabetes control can improve the local immunity of the skin and reduce outbreaks**. Nail infections, or onychomycosis**, from fungus are often tricophytal species, and are more difficult to eradicate, sometimes requiring extended use of oral antifungals and/or nail removal.

Rare skin disorders include **Bullous Diabeticorum**, which are painless, blisters on hands and feet that usually spontaneously heal, and **Eruptive Xanthomatosis.** Eruptive Xanthomatosis most often occurs in younger males with type 1 diabetes, and they often have cholesterol disorders. Improved diabetes control and treatment of cholesterol will often improve this rash.

Of course, **bacterial infections** can occur in any patient with diabetes, and this can include generalized cellulitis, characterized by areas of reddened skin warm to the touch. Carbuncles (boils) are common in diabetes patients, often in those dealing with control or hygiene issues. Like all infections, these can cause fever and chills, and can progress to system-wide infection (sepsis). These usually require oral or intravenous antibiotics. Blood sugars can be elevated, as with any infection.

Eczema, a dry, sometimes flaky condition is fairly common in diabetes patients, particularly in winter months, often affecting hands, extensor surfaces, skin folds, and ear canals. Topical corticosteroids, use of fragrance-free soaps, and skin moisturizers can be very effective.

The destruction or build-up of fat, called **lipoatrophy and lipohypertrophy**, were common prior to the advent of modern insulin

products. This can still be seen in patients who do not rotate sites, or inject in areas where there is little subcutaneous tissue. Recently, as study in pediatric pump patients revealed some problems like this, but it was unusual for the patient to discontinue the pump as a result.

Skin conditions are common in diabetes, so be alert to their presence. Patients frequently do not identify skin issues as being associated with their diabetes, so they may not bring them up. Asking about skin issues in the history or review of systems can reveal these problems, and many can be easily treated.