

Pressure Injuries of the People with Diabetes

The Wound Is Often Visible Before the Skin Opens

Key Message:

Most severe pressure injuries do not begin as open wounds. They begin with subtle skin changes that, if recognized early, can often be prevented from progressing to infection, hospitalization, or amputation.

Clinical Photo Series: Recognizing Progression

The photographs in this chapter demonstrate how pressure injuries evolve if early warning signs are missed.

Figure 16-1 Common Sites of Pressure Injuries

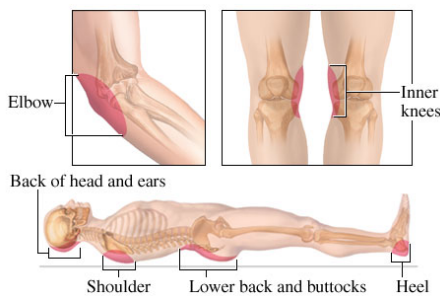


Figure 16-2 Position of the bed-ridden patient



Pressure Injuries: Mitigating Unavoidable Risks with Early Recognition



Figure 16-3

The image demonstrates subtle redness over the heel of a non-ambulatory diabetic patient. At this stage the skin remains intact, but tissue injury has already begun.

Teaching Point

Early recognition at this stage may completely prevent ulcer formation.



Figure 16-4. Deep Tissue Injury

The photograph shows worsening discoloration caused by prolonged pressure. Although the skin surface remains largely intact, deeper tissues are already becoming nonviable.

Teaching Point

Deep tissue injury can progress rapidly even when no open wound is visible.



Figure 16-5

Heel Ulcer Formation

Continued pressure eventually causes skin breakdown.
The ulcer exposes deeper tissue and significantly increases the risk of infection.

Teaching Point

Once the skin opens, treatment becomes substantially more difficult.



Figure 16-6. Progression of Pressure Injury to amputation

Pressure injuries frequently develop at several locations simultaneously.

This often indicates prolonged unrelieved pressure.

Teaching Point

Finding one pressure injury should prompt examination of the entire foot.



Figure 16-7. Tissue Necrosis and Gangrene

Failure to relieve pressure can result in extensive tissue death. These advanced wounds frequently require surgical debridement or amputation.

Teaching Point

This devastating outcome often begins with simple redness that was initially overlooked.

Daily Foot Inspection Checklist

Every day, inspect both feet for:

☐ Redness

- ☐ Blisters
- ☐ Purple discoloration
- ☐ Black skin
- ☐ Swelling
- ☐ Drainage
- ☐ Open wounds
- ☐ Areas of excessive pressure
- ☐ Changes from yesterday

Comparison with the previous day is often the best method for recognizing early deterioration.

Prevention

Most pressure injuries are preventable

Simple preventive measures include:

- ☐ Floating the heels off the mattress
- ☐ Repositioning regularly
- ☐ Using pressure-relieving boots
- ☐ Inspecting feet every day
- ☐ Keeping skin clean and dry
- ☐ Maintaining good nutrition
- ☐ Optimizing blood glucose control
- ☐ Reporting abnormal findings immediately

Never place pillows directly beneath the heel.

Instead, elevate the calf so that the heel is suspended free of pressure.

When to Notify the Nurse or Physician Immediately

Notify the healthcare provider immediately if you observe:

- ☐ New redness that persists
- ☐ Purple or black discoloration
- ☐ Blisters

- ❑ Drainage
- ❑ Open wounds
- ❑ Rapid swelling
- ❑ Increasing warmth
- ❑ Foul odor
- ❑ Fever
- ❑ New pain (if sensation is present)

Early intervention often prevents hospitalization.

The DG2030 Five-Step Action Protocol

When any suspicious finding is identified:

1. **Document** the abnormal finding.
 2. **Notify** the supervising nurse immediately.
 3. **Contact** the physician or podiatrist promptly.
 4. **Record** the date and time of notification and any new orders.
 5. **Monitor** the area daily until the condition improves or further treatment is initiated.
-

Clinical Pearls

- ❑ Pressure injuries usually begin beneath intact skin.
 - ❑ Redness is never "normal" in a diabetic patient.
 - ❑ Heel pressure injuries can develop within days in high-risk patients.
 - ❑ Patients with neuropathy often have **no pain** despite severe tissue damage.
 - ❑ Early pressure relief is the most effective treatment.
 - ❑ Prevention is always easier than treatment.
-

Chapter Summary

Pressure injuries of the diabetic foot are among the most preventable complications encountered in long-term care. They typically begin with subtle skin discoloration

before progressing to ulceration, infection, and, in severe cases, amputation. Daily inspection of the feet, prompt recognition of early warning signs, and immediate pressure relief are the cornerstones of prevention. The clinical photographs in this chapter illustrate how minor skin changes can rapidly evolve into limb-threatening complications when early recognition is missed.

Knowledge Check

1. Which area of the foot is most commonly affected by pressure injuries in non-ambulatory diabetic patients?

- A. Great toe
- B. Heel
- C. Arch
- D. Ball of the foot

Answer: B. Heel

2. True or False

Pressure injuries usually begin as large open wounds.

Answer: False

3. Which finding requires immediate reporting?

- A. Persistent heel redness
- B. Purple discoloration
- C. New blister
- D. All of the above

Answer: D. All of the above

4. Why are diabetic patients at increased risk for pressure injuries?

- A. Peripheral neuropathy reduces protective sensation.
- B. Poor circulation delays tissue healing.
- C. Limited mobility prolongs pressure over bony areas.
- D. All of the above.

Answer: D. All of the above

Learning Objectives

After completing this chapter, you will be able to:

- Identify patients at greatest risk for foot pressure injuries.
- Recognize the earliest visual signs of pressure damage.
- Understand how prolonged pressure causes tissue injury.
- Perform a systematic daily foot inspection.
- Know when immediate medical evaluation is required.

Why This Chapter Matters

Pressure injuries remain one of the most preventable causes of hospitalization among non-ambulatory individuals with diabetes. Unlike walking-related diabetic foot ulcers, pressure injuries develop because continuous pressure cuts off blood flow to the skin and deeper tissues. People with diabetic neuropathy often cannot feel pain or discomfort. As a result, they may remain in the same position for hours while tissue damage progresses unnoticed.

By the time an open wound develops, significant damage has often already occurred beneath the skin. Fortunately, these injuries usually provide visible warning signs long before skin breakdown occurs. Recognizing these early changes can save a limb.

Who Is Most at Risk?

Patients are at particularly high risk if they have:

- Diabetes with peripheral neuropathy
- Poor circulation (Peripheral Arterial Disease)
- Wheelchair dependence
- Bed confinement
- Stroke with paralysis

- Dementia
- Spinal cord injury
- Frailty or inability to reposition themselves
- Previous pressure injuries
- Poor nutritional status

The more risk factors present, the greater the likelihood of developing a pressure injury.

Why Pressure Injuries Develop

Healthy tissue requires a constant blood supply.

When pressure is applied over a bony prominence for a prolonged period, tiny blood vessels become compressed.

Without oxygen and nutrients:

- Cells begin to die.
- Tissue damage develops beneath the skin.
- Eventually the skin breaks down.
- Bacteria enter.
- Infection develops.

For diabetic patients with poor circulation, this process can occur much faster than expected.

Common Pressure Sites on the Foot

Daily inspection should focus on areas where bone lies close to the skin.

These include:

- Heel (most common)
- Outside of the heel
- Lateral foot
- Fifth metatarsal base
- Outer ankle
- Inner ankle
- Tips of the toes
- Between the toes
- Top of the foot beneath braces or splints

Even medical devices, compression stockings, boots, or tight blankets can create dangerous pressure points.

Early Warning Signs

The earliest pressure injury is often painless.

Watch carefully for:

- Persistent redness
- Purple or maroon discoloration
- Darkening of the skin
- Localized warmth
- Firm or hardened skin
- Soft, boggy tissue
- Swelling
- Blister formation
- Small areas of skin breakdown

Remember:

If redness does not fade after pressure has been relieved, tissue injury has likely already begun.