Table 1-2
Patient-Related Factors Negatively Affecting Postoperative Healing

- Increasing age
- Tobacco use
- Osteoporosis/osteopenia
- Vitamin D deficiency
- Hypercholesterolemia
- Hyperglycemia (hemoglobin A1c > 7%)

Table 1-3
Rotator Cuff Tear–Related Factors Negatively Affecting Postoperative Healing

- Large, massive tears
- Degenerative pathology
- Fatty infiltration
- Muscle atrophy
- Tendon retraction
- Chronic rotator cuff tears

As a result of the inferior biomechanical properties of innate tendon, further discussion arises as to the potential need and timing for surgical repair.

Factors Affecting Outcomes

There are many factors affecting outcomes after rotator cuff repair, including patient related (Table 1-2), tear related (Table 1-3), and surgery related.

Patient-Related Factors

Age

Increasing age is correlated with decreased healing after rotator cuff repair for both open and arthroscopic repair, independent of surgical technique.[2,74,75] Rates of healing in patients older than 65 years was found to be 43%, compared with 86% in younger patients with isolated, single-tendon tears managed arthroscopically.[2] Cho et al[76] investigated 123 arthroscopic double-row suture bridge repairs and also found an association between increasing age and lower rates of tendon healing, with 60.1 years being the average age of unhealed repairs, compared with 53.8 years of age in the healed cohort. Similar ages were found in Oh et al's study[77] of 177 patients with arthroscopic and mini-open cuff repairs, with an average age of unhealed repairs of 63.7 compared with 58.4 in healed repairs.

Tobacco Use

In addition to increasing the risk of larger tear size and increasing age, tobacco use has led to inferior clinical outcomes following cuff repair.[17,18] Among patients undergoing standard outpatient arthroscopic rotator cuff repair, tobacco use was associated with a significantly increased rate of revision or subsequent surgery (7.3% vs 5.9%).[78] Smokers had a significantly lower rate of healing compared with nonsmokers in patients treated with arthroscopic double-row repairs: 78%