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An analysis of reasons for postoperative failure and complications of the ankle syndesmosis

**Introduction:** Syndesmosis injury is very common during ankle fracture. Many methods are used to treat this kind of injury, however there are a large number of cases that result in failure of initial fixation. There are no systemic reviews on the reasons for failure of syndesmosis repair. Synesmosis repair failure, if not corrected immediately, can result in serious complications of the ankle. Therefore, it would be useful to understand what the underlying reasons for failure are and the frequencies with which they occur.

**Methods:** We searched keywords ‘syndesmosis injury,’ ‘syndesmotic failure,’ ‘syndesmotic diastasis,’ ‘complications of syndesmosis,’ ‘outcomes of syndesmotic fixation,’ and ‘syndesmosis screw failure’ on PubMed. We found a certain number of papers that involved syndesmosis fracture and we reviewed the reasons for repair failure.

**Results:** We reviewed 2673 patients who had undergone surgery for fixation of the syndesmosis and found 440 patients to have undergone failure during initial fixation. Reasons for failure include screw breakage, malreduction, infection, inappropriate size of the screw, and inappropriate fixation of the screw.

**Conclusion:** The most common reasons for initial syndesmosis repair failure were malreduction and screw breakage. Based on this review, doctors should pay more attention to initial reduction and screw fixation and patients’ minimal weight-bearing compliance should be better monitored to reduce failure rates in the future, which would help to increase quality of life of these patients.