



**Figure 12-1.** Technique for calculating the TAD. For clarity, a peripherally placed screw is depicted in the AP view, and a shallowly placed screw is depicted in the lateral (lat) view. (D = known diameter of the lag screw; see text.)

- ▶ Examined tip-apex distance (TAD)
  - ▷ Sum of the distance (mm) from the tip of the lag screw to the femoral head apex on the AP and lateral views (Figure 12-1)

## Results

- ▶ Average TAD in cases with screw cutout: 33 mm (28 to 48 mm).
- ▶ Average TAD in cases without screw cutout: 24 mm (9 to 63 mm).
- ▶ TAD
  - ▷ < 25 mm no cases of screw cut out
  - ▷ < 30 mm cutout rate 2%
  - ▷ > 30 mm cutout rate 27%
  - ▷ > 35 mm cutout rate 36%
  - ▷ > 45 mm cut out rate 60%
- ▶ Multivariate analyses (factors that showed greatest to lowest significance)
  - ▷ TAD > 30 mm (highest significance)
  - ▷ Unstable fracture pattern
  - ▷ Age > 76
  - ▷ Plate angle > 150 degrees (lowest significance)
- ▶ In addition to an increased TAD, an increasing age, unstable fracture pattern, and high-angle (150 degrees) side plate were also associated with a significantly increased risk of lag screw cutout.