Dose conformity to radiosurgical targets is a feature upon which to evaluate and compare radiosurgery treatment plans. Several conformity indices have been proposed including formulae described by Shaw (IJROBP 27:1231-1239, 1993), PIV/TV, and Paddick (J Neurosurg, suppl 3, 93: 219-222, 2000), TIV²/PIV*TV. An alternative conformity index that adjusts for target coverage, is provided by the Cyberknife treatment planning system (Accuray, Inc., Sunnyvale, CA), TIV x PIV / (Tumor volume)². Between November 2001 and March 2002, 70 intracranial lesions were treated at our institution with Cyberknife image-guided, frameless radiosurgery. Dose volume histograms for target and non-target tissue were generated based on CT determined volumes and dose distributions for each treatment plan. The mean prescribed isodose was 80% (range: 65-88%), the mean target volume was 5.38 cc (range: 0.114 – 41.6 cc) and the average target coverage at the prescription isodose was 96% (range: 89 – 100%). Target volume (TV), prescription isodose volume (PIV), and target isodose volume (TIV) were recorded. From these data, the three different conformity indices were calculated. The median values for each index were compared with the published results of Gamma Knife dose conformity reported by Nakamura et al (IJROBP 51: 1313-1319, 2001. For this series, the median conformity indices for PIV/TIV, TIV²/PIV*TV, and PIV*TIV/TV² are 1.21, 0.78 and 1.17, respectively, compared with 1.67, 0.56, and 1.62 for the GammaKnife. Independent of the method chosen to describe conformity, this analysis shows that excellent dose conformity is achievable with the Cyberknife system and may be superior to that achieved by GammaKnife.