Fresh-cut apples are expected to continue growing as more consumers demand convenient foods. The aim of this work was to study the effect of chitosan nanoparticles-based edible coatings on physicochemical quality of fresh-cut apple. ‘Royal Gala’ apples were washed and sanitized in 200 mg L\(^{-1}\) sodium dichloroisocyanurate dehydrate for 3 min. Then, apples were cut manually into slices and rinsed in a 20 mg L\(^{-1}\) sodium dichloroisocyanurate dehydrate solution and immersed in 1% ascorbic acid for 3 min. Chitosan nanoparticles of two different sizes were prepared using ionic gelation of chitosan with sodium tripolyphosphate. Apple slices were treated as follow: (1) chitosan nanoparticle-140 nm added by spraying on the slices, (2) chitosan nanoparticle-300 nm, (3) 2 g L\(^{-1}\) chitosan dissolved in 2% citric acid added by immersion the slices, (4) control: 1% ascorbic acid. The slices were placed into polyethylene terephthalate trays and stored at 5\(\degree\)C. Analyses were carried out every two days for 10 days. All samples showed similar pH values, 3.8 to 3.9. Samples of the three treatments maintained their ascorbic acid, from 0.8 to 0.7 mg 100 mL\(^{-1}\). Control samples had the lowest content from 0.8 to 0.4 mg 100 mL\(^{-1}\) during the storage period. Treatments had no influence on the total soluble solids, which ranged from 13.9 to 12.4 °Brix. All samples exhibited a slight reduction of titratable acidity from 0.15 to 0.13 g 100 mL\(^{-1}\). The results evidence that there was neither difference among the treatments studied nor the physicochemical quality was affected by them.