The main objective of this study was to measure the auditory perception of cochlea implanted children on basic syllables used in Quran. A total of 8 subjects aged 8 years to 13 years old (mean = 10.6 years old, SD = 1.7 years old) who underwent cochlear implantation under the Universiti Kebangsaan Malaysia Cochlear Implant Program were involved in this study. Subjects were those with prelingual deafness and must have had at least 5 years (mean = 7.3 years old, SD = 1.8 years old) experience of using cochlear implant. In this study, test items were presented through loudspeaker at 65 dB SPL using live voice by a Malay male speaker who is expert in Arabic language and Quranic recitation. Paired t-test measure showed that there was significant difference between pre and post Quranic learning among cochlear implanted children to identify basic syllables (p<0.05). Besides that, this study showed 3 subjects were at the high level and 5 other subjects were at the moderate level of ability on auditory perception. So, it can be conclude that the ability of auditory perception among cochlear implanted children was at moderate level. The most difficult syllable to be perceived is syllable [⟨ش⟩] /ś/ and followed by several other /⟨ق⟩, ⟨غ⟩, ⟨خ⟩/ syllables such as /⟨ق⟩, ⟨غ⟩, ⟨خ⟩/. In conclusion, this preliminary study to determine the level of cochlear implanted children on the mastery of the basic syllables of the Quran that newly conducted in Malaysia. Auditory perception can be enhanced by the continuous learning because they are able to communicate in their mother tongue. The support from teachers in the school plays an important role in helping them to acquire the ability to learn the Quran.