In this paper we describe advanced methods for the precise posture head measurement by cameras and accelerometers. The methods we designed for use in neurology to discover relationships between some neurological disorders. The main goal of this study is to compare possibilities of the methods. The results are presented for rotation and flexion of head. It was experimentally checked that the accuracy is tenths of degree and therefore this method satisfies the general physicians' requirement for the accuracy of the measurement about 1-2°.