A fetus in the utero had not been an object of a medical care until medical engineering progressed and became to be used in the field of perinatal medicine. All most all fetuses are monitored with cardiotocometer during labor and saved their lives by proper management in Japan. Congenital abnormalities of the fetus can be diagnosed by 2D and 3D ultrasound in utero. Fetuses with severe congenital abnormalities are treated properly not only after birth, but also in utero in some cases. Newborn babies are checked and monitored non-invasively thanks to medical engineering. Medical engineering have caused "revolution" in perinatal medicine, but still there is room for the improvements.