Patient doses were computed to 6 infants (weight < 20 kg), 4 children (weight between 20 and 40 kg) and 30 adults who underwent an interventional neuroradiologic procedure on a digital biplane imaging system. An online patient dosimetry system (PEMNET) recorded values of entrance skin exposure for all fluoroscopic and radiographic components of each examination. Entrance skin exposures were obtained directly from the PEMNET system for each patient for both frontal and lateral imaging planes. Additional x-ray beam data (i.e., size of the x-ray beam, kVp and half value layer) were obtained to enable computation of the total energy imparted to each patient as well as the corresponding values of effective dose. Average values of entrance skin exposure were highest in adults (126 ± 72 R frontal plane and 62 ± 45 R lateral plane), and lowest in infants (84 ± 61 R frontal plane and 50 ± 27 R lateral plane). Values of energy imparted also decreased with age, and were highest in adults (4.0 ± 2.6 J) and lowest in infants (1.0 ± 0.7 J). The corresponding values of patient effective dose, however, were highest in infants (68 ± 51 mSv) and lowest in adults (20 ± 14 mSv). Entrance skin exposures and effective doses are both very high in comparison with other types of diagnostic examinations, and therefore suggest that dose reduction strategies for these procedures merit attention.