Radiological examination only furnishes information on the morphological changes of the spine, which do not always agree with the symptoms and the clinico-functional state of the spine itself.

Nevertheless, if account is taken of these diagnostic limitations, the X-ray can still supply valuable information on the state of the spine, especially in certain risk groups and in subjects already selected according to other clinical and diagnostic procedures.

With respect to this, a study was carried out in a random group of 1156 subjects who were referred to a radiology department in Milan, during one year, for X-ray examinations other than of the spine. The group was stratified by sex and by 5 age classes (16-25, 26-35, 36-45, 46-55, 56-60 years). The occurrence of thoracic and lumbar arthrosis was studied in each sex and age subgroup in order to estimate the prevalence of these diseases in the general population of northern Italy.

An original set of diagnostic criteria was established in order to standardise the interpretation of X-ray results. These criteria make it possible to distinguish negative, "transition" and positive cases according to age.

Finally, the results obtained were analysed statistically. The prevalence of positive cases of thoracic arthrosis turned out to be (respectively for females and males) 2-4% in the youngest age class; 13-7% in the second; 25-36% in the third; 54-38% in the fourth; 61-65% in the oldest age class. The prevalence of positive cases of lumbar arthrosis turned out to be (respectively for females and males) 0-1% in the youngest age class; 6-2% in the second; 27-27% in the third; 51-58% in the fourth; 89-80% in the oldest age class. The differences of the prevalences between females and males in the same age classes appeared to be generally not significant from a statistical point of view.

In the final report results will be discussed in greater detail and will be discussed with a view to their use, as a reference, in radiological screenings of the spine in particular risk groups of the population of working age.