A great blow to Polish radiology was dealt by the Second World War. Many radiologists, including eminent ones, lost their lives (warfare, Gestapo, death camps, ghettos, the Warsaw Uprising, mass murder - Katyn etc., and in the USSR). Technical equipment was destroyed and radiological centres were ruined. Despite tremendous loss and unprecedented terror that Poland was subject to underground state structures were established, including secret administration and army. Education, including medical student training, was not excluded from the activity. Secret medical courses were arranged in Warsaw. There were three centres: Dr Jan Zaorski's Prywatna Zawodowa Szkoła dla Pomocniczego Personelu Medycznego /Private Vocational School for Auxiliary Medical Personnel/ (the name not denoting its university character was supposed to mislead the Germans), Tajny Uniwersytet Warszawski /Warsaw Secret University/, Tajny Uniwersytet Ziem Zachodnich /Western Lands Secret University/ (founded by professor displaced from Poznań). Radiological laboratories of most Warsaw university hospitals as well as a number of professors (among others, W. Zawadowski, M. Werkenthin, W. Bądzińska, W. Ciećwierz, W. Kuźma, B. Slomówna) were engaged in radiology teaching. The total number of over 3000 students were involved in secret medicine teaching in Warsaw during the war. After the Warsaw Uprising the Western Lands Secret University continued its activity in Cracow. Radiology was taught by Prof. Karol Mayer. Having left Poznań, he spent the war time in Cracow where he worked on a project of a "great power missiles". Another important medical teaching centre during the World War II was the Polish Medical Department of the Edinburgh University, founded in 1941. Radiology was taught by Assist. Prof. Adam Elektorowicz and Dr Jan Kochanowski, who got there with the Polish army.

The tragedy of Holocaust was not avoided by Polish radiologists of Jewish origin. The example was Dr Natan Mesz. Since 1918 he had been the head of the (established by himself) radiological department of the Jewish Hospital in Warsaw. In 1940 he moved with the hospital to the ghetto. In extremely harsh conditions, he kept working until its end doing the diagnostics and teaching students of the Jewish origin who participated in the courses led by the Warsaw University professor Julian Zweibaum.

During the Second World War radiological laboratories in Poland often had an unexpected role. Owing to their specific character (darkrooms) they were important placed for the resistance movement.

After the war Poland, as a result of the agreement between the allied forces in Yalta, found herself behind the Iron Curtain in the sphere of the Soviet influence. The limited contact with the world science and the lack of access to modern equipment considerably hindered the development of the Polish radiology. In spite of that it kept developing to the best of the capabilities available. The equipment of Polish radiological laboratories was predominantly based on home-made devices (Zakłady Produkcji Aparatury Rentgenowskiej FARUM) and those produced in East European countries (East Germany, Hungary, Czechoslovakia). Films and radiological reagents were home-made, too (Zakłady Fotochemiczne FOTON - Warszaw and Bydgoszcz) as well as contrast media (ion intravascular agent Uropolinum, agents for the examination of the alimentary tract - Baryt). It was not until the 1970s that the devices and films and reagents of other foreign companies were imported.

A great role in the post-war history of Polish radiology was played by Professor Witold Zawadowski who established in Warsaw a teaching centre for doctors throughout Poland who decided to specialise in radiology. That is why it was possible to soon restore that branch of medicine in Poland.

Although radiological examinations for the purposes of neurology or neurosurgery were carried out before 1939, yet the origin of Polish neuroradiology is associated with the activity of Professor Stanisława Spettowa. During her 26 busy years of work (since 1946) in the Kraków University Hospital she created the Polish school of neuroradiology. She introduced to the world bibliography, along with the neurosurgeon Prof. Kunicki, the term "brain medial area tumor". Her collaborator Assoc. Prof. Ryszard Chrzanowski was the author of the first Polish textbook of neuroradiology issued in 1970 by the publishing house Polskie Zakłady Wydawnictw Lekarskich.

Towards the end of the 1930s Dr Edward Matuszek from Warsaw developed the method of obtaining "layer films of any desired curvature or the refraction of the cross-section area". He performed a number of arduous experiments and mathematical calculations. The war delayed his studies, but in 1949 at the meeting of the Warsaw Section of the Polish Medical Society of Radiology he presented his method. He presented tomograms of the curvatures of the plaster model of the facial skeleton taken with the use of a device of his own construction. In his device the object investigated and the roentgen film were movable, whereas the source of radiation was immovable. His disease made it impossible for him to continue his studies; as a result, Dr Matuszek withdrew from professional activity; he died in 1952. Unfortunately, his disease as well as the difficulty in foreign contacts at that time ("Cold War") resulted in the fact that his achievements failed to be commonly applied, whereas they were ahead of the introduction of pantomography by Paatero from Finland in the 1950s.

In the years 1947-81 the Head of the Department of Radiology of the Institute of Oncology, Warsaw was professor Janusz Buraczewski. He established the Polish school of oncological radiology. He was the inventor of the method referred to as „macroscopic tissue diagnostics”. He was particularly interested in the diagnostics of bone tumours. Along with Dr Dąbska, he was the co-author of the first work on the symptomatology of aneurysmal bone cyst in the world (Dąbska M., Buraczewski J. Aneurysmal bone cyst -pathology, clinical course and radiologic appearances. Cancer 1969, 23:371). He also established the first Bone Tumour Register (Rejestr Guzów Kości) in Poland. He initiated
microradiographic investigations of bone lesion sections (from the 1970s the research programme was carried on by Prof. Janina Dziukowa, his successor).

In the early 1960s Prof. Buraczewski started xerographic examinations. They were performed using the Xerofot-Piast device, constructed along with the staff of the Chair of Physics, the Warsaw University of Technology (Politechnika Warszawska) (Szymańska W. ed. Elektrofografia /Electrophotography/. Warszawa. 1965 Wyd. Naukowo-Techniczne). In the 1975 he introduced mammography (xeromammography) nation-wide.

He was the editor of the monograph “Radiodiagnostics of neoplastic lesions” (Buraczewski J. ed., Radiodiagnostyka zmian nowotworowych. Warszawa. PZWL, published 1977 and 1987).

In the 1950s in Warsaw Dr Janusz Bowkiewicz created the first centre for angiographic examinations in Poland. He used the knowledge he had gained during his training in radiological centres in Zurich, Bonn, Paris and Minneapolis. From 1959 he organised training courses for radiologists. The next stage was interventional radiology. In 1967 Zygfryd Wawrzynek performed in Katowice, as the first one in Poland, the restoration of patency of the femoral artery using Dotter’s method with the use of his own set of instruments. The results were published in 1968 – it was the first publication on that subject matter after that by Charles Dotter.

In the 1970s the then state-of-the-art angiography units were purchased for the main university centres. That resulted in the development of angioradiology. At that time the first coronarography was performed in Łódź.

Ultrasound examinations were performed in Poland as early as the 1960s (mainly in obstetrics and gynaecology). A considerable contribution to the world ultrasonography was made by team headed by professor L. Filipczyński from Warsaw. In 1966 a Polish ultrasound unit was produced. In 1969 the first ultrasonic imaging of the eye was performed and in 1976 quantitative measurements of arterial blood flow were performed - both as the first such examinations in the world.

The first computed tomograph in Poland was installed in the Department of Radiology at Medical University, Poznań in 1979.

In 1991 two MRI systems were installed in Warszawa as first ones in Poland (Departments of Radiology at Railways Hospital and Neuropsychological Institute). It is worth mentioning here that Professor Andrzej Jasiński and his group at the Department of Radiospectroscopy at Henryk Niewodniczański Institute of Nuclear Physics in Kraków started MRI research in Poland by building first experimental MRI system in 1985. The system was based on a 0.6 T permanent magnet with a gap of 60mm with a home built MRI console in CAMAC standard, interfaced to a minicomputer with a software system developed in house. First good quality MR images of plants and small animals were obtained in 1986 and presented at the XIX Polish Seminar on NMR and its Applications in Kraków. This system was upgraded in 1992 to a MR Microscope based on a 6.3T/53mm vertical bore superconducting magnet.

In 1995, at the centenary of the discovery of X-rays the XXXIV Congress of the Polish Medical Society of Radiology was held in Łódź. On that occasion a reprint of Roentgen’s first report, translated into Polish by Dr Stanisław Srebrny and published (January 30, 1896) as a booklet, was issued.

In 1996 the centenary of the Polish radiology was celebrated (it came into being in January 1896 in Kraków) by the organisation of an exhibition in the Jagiellonian University Museum.

In 1998 the first teleradiology and RIS systems (soon upgraded with PACS) in Poland were installed (the Department of Radiology - Kraków University Hospital).

In 1999 a thorough reform of the specialisation training system in radiology was implemented (among other things, a unified central exam, and since 2003 a practical exam by means of computer monitor presented pictures).

In 1999 the Polish Radiology website - www.polradiologia.org - was created.
In 2000, published by the Kraków publisher Medycyna Praktyczna "The history of the Polish radiology against the background of the world radiology" edited by Prof. Stanisław Leszczyński appeared.