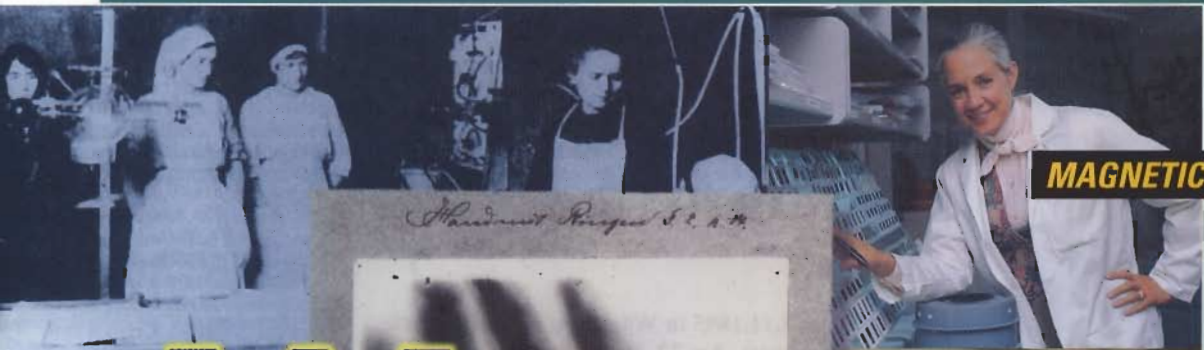


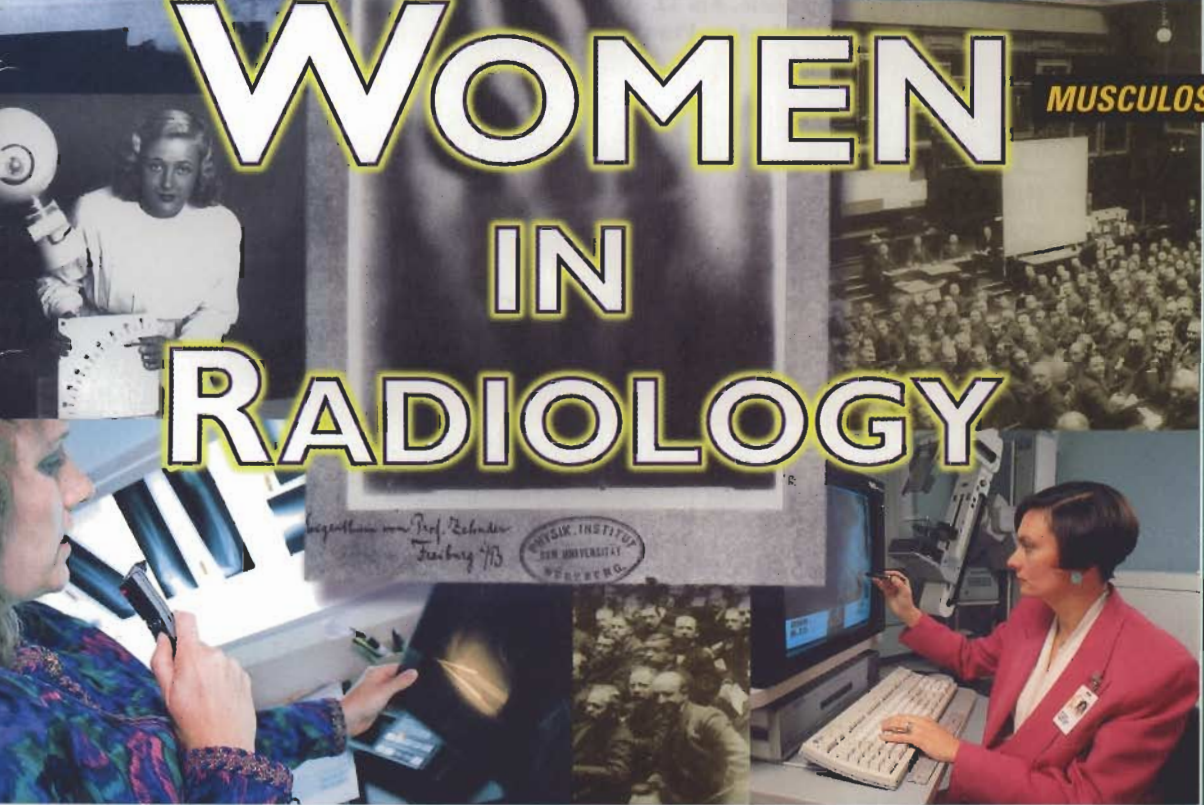
DIAGNOSTIC IMAGING EUROPE

**DANES STUDY
COSTS OF
NONIONIC
CONTRAST**



MAGNETIC RESONANCE

MR imaging allows detailed look at cavernous sinus



MUSCULOSKELETAL

Newer modalities provide answers in thalassemia

COVER STORY

BY FRANCES RYLANDS-MONK

New research focuses on historical and contemporary roles of female radiologists

Status of women grows but top jobs elude them

Upon arrival at last year's European Congress of Radiology in Vienna, many attendees were surprised to discover a large exhibition celebrating women in radiology, prominently located at the entrance to the Austria Center. Although the status of female physicians and the development of women's imaging have been contentious issues in the U.S. for the past two decades, the issues rarely surface in Europe.

The ECR exhibit, organized by the German Röntgen Museum, was designed to publicize the work of female pioneers. As they gazed at the faded black-and-white photos of yesterday's female leaders in radiology, the delegates must have wondered what those women would have made of the technological advances in radiology and the changing role of the female radiologist.

Considerable progress has been made. In the late 19th and early 20th centuries society was generally hostile to women taking public roles, and those who did so often had to choose between family and profession. Today, an estimated 30% of radiologists in Europe are women and the figure is much higher in some countries and among trainees (see table on page 26). Women occupy a host of senior radiological posts, suggesting that gender prejudice no longer exists. Although few female radiologists complain about overt sexual discrimination, some believe that obstacles to their progress do remain.

"What is perhaps discouraging for young women is the fact that the specialty is ruled by a dominant male

population, though this is not unique to radiology," said Prof. Danielle Balériaux, head of neuroradiology at Erasme Hospital in Brussels. "Men do consider female radiologists in a different and, alas, inferior way than their male colleagues and often do not like to share power with females. They do not accept easily the idea of having to obey or accept rules given by a 'female creature.'"

Although she acknowledges that the excellent work of many female radiologists is recognized, Balériaux regrets that only a few female radiologists have busy academic careers or are running their departments. She urges more women to strive for higher positions, particularly now that domestic duties are more equally shared by both sexes.

In spite of complaints by some women radiologists about attitude problems among male colleagues, it

is generally agreed that organized discrimination against the promotion of women is a thing of the past.

"I haven't seen any signs of either overt or covert discrimination on any of the appointment boards I have sat on in recent times. The last thing anyone worries about is gender," said Prof. Helen Carty, a pediatric radiologist at Alder Hey Hospital in Liverpool, U.K., for more than 25 years.

ROLE MODELS

Dr. Uwe Busch, deputy director of the Röntgen Museum and the force behind the ECR exhibit, believes that increased awareness of women's achievements in radiology can encourage more women to enter the field. A common misconception is that virtually all famous innovators in radiology have been men, he said. Actually, many of radiology's leaders were women, but they have remained in obscurity. Busch hopes to redress this imbalance with ongoing research to rediscover these women and promote their work.

"Nowadays in Germany, 50% of all medical students are female, but



The ECR '97 exhibit kindled interest in the historical role women have played in radiology.

relatively few female physicians decide to work in radiology," he said. "The female membership of the German Röntgen Society is 24%. Although the staff of a radiological clinic is mainly female, the key positions are chiefly occupied by men."

A greater emphasis on female role models is vital to promote interest in the discipline, according to Dr. Finn Mathiesen, a consultant radiologist at Vejle Hospital in Denmark, and president of the Danish Radiological Society (DRS).

Innovations like the ECR exhibit certainly arouse interest at conferences, but whether they fulfill their goal of spurring female medical graduates on to radiological achievement is debatable. Some observers question whether specific action is necessary to attract women to a profession that they are close to taking over in some countries. In Denmark, for example, 66% of all medical graduates are women.

The last three presidents of the DRS were women, and women hold three of the five board memberships. It is not only women who need to be encouraged to choose radiology, but men as well, Mathiesen said.

Although Busch's work is helping draw attention to female pioneers, the reality for many senior women radiologists is that they have had to study and work without the support of female mentors or colleagues.

When Dr. Renate Frahm, a private radiologist in Tuttlingen, Germany, trained between 1978 and 1983, there were no female radiologists in her hospital. On the positive side, it was a good time to find a job, because it was considered fashionable to take on female assistants, she said. Frahm established her own practice two years after completing her training, and in 1991 was awarded the German Röntgen Society's W-C Röntgen Prize.

Carty, too, was the only female radiology trainee in her hospital. Until the mid-1960s, most women doctors went into general practice, she said.

"I had no female radiologist to look up to as a mentor, and even later in my career, I did not meet many other women neuroradiologists," Balériaux said. "I became a neuroradiologist by chance, due to the unexpected death of Prof. Georgette Melot (former president of the Belgian Radiological Association) in 1966, when she was director of the radiology department. She had decided to establish a neuroradiological department before she died, and so our medical school was looking for someone interested both in radiology and neurology."

FEMALE SUPERIORITY?

Although obtaining reliable statistics is difficult, roughly an equal

SCIENTISTS PAID HIGHEST PRICE FOR THEIR DISCOVERIES

Female researchers deserve recognition

The names Marie Curie, Hilde Maier-Smerekker, Maria Werkenthin, and Elisabeth Fleischmann evoke both admiration and regret. These women have inspired generations of radiologists with their commitment and accomplishments, yet all of them died from the effects of the rays they sought to harness.

- *Elisabeth Fleischmann* (1859-1905) is thought to be the first woman to establish her own laboratory. A resident of San Francisco, she acquired a private x-ray unit with a fluoroscope in 1896. During the Spanish-American War, she served the injured by localizing foreign bodies. She was one of the first 42 members of the American Roentgen Society. Ignoring warnings, Fleischmann did not take precautions to protect herself from radiation, and in 1903 she fell ill with radiodermatitis of her hands. Despite amputation of her arm, she subsequently died from radiation-induced cancer.

- *Hilde Maier-Smerekker* (1893-1954) studied at the University of Vienna and worked at the Radium Institute of the Vienna Academy of Sciences. Later she was a radiophysicist in the Hospital Lainz in Vienna, specializing in dosimetry. In 1953 she fell ill from

radiation damage to her blood and died one year later.

- *Marie Sklodowska-Curie* (1867-1934) coined the term "radioactivity" along with her husband, Pierre Sklodowska. She studied experimental physics at the Sorbonne in Paris, where her teacher, Henri Becquerel, discovered uranium rays. During her research into radioactivity, she isolated radium from pitchblende. Curie was the first woman in France to become a professor of physics, and received two Nobel prizes. Her exposure to radiation damaged her skin and hermatogenic organs, and finally led her to death.

- *Maria Werkenthin* (1901-1944) was born in Kordolovka, Poland, and studied medicine in Kiev. In 1929, she became director of the radiology department at the Szpital Woleski in Warsaw, where she studied the radiological diagnosis of lung diseases. In the late 1930s and early '40s, she continued her work, teaching students and young physicians. She was arrested in September 1943 and deported to Auschwitz for having placed branches on the graves of two members of the Resistance. She worked in the camp clinic until she contracted typhoid, and was shot by a guard on Feb. 2, 1944. ■

number of men and women seem to have entered radiology during the last 10 years in most European countries. At Munich's Grosshadern Clinic, for instance, 30% to 50% of radiologists have been women since 1970, and a third of all radiologists who present their master's theses have been female, according to Prof. Mareike Kessler of the department of radiology.

This parity exists partly because both young men and women understand that radiology is an extremely exciting component of medicine, Carty said. Radiology has expanded beyond expectation since the 1960s and has become higher profile, so that more medical students learn about it early in their training, she said.

Another factor is the variation found within radiology, which allows development of special interests.

The introduction of new applications and imaging equipment is another reason for the increased number of female specialists, according to Carty. Others, however, consider it a natural progression for more women to become radiologists.

"In my experience, women make better radiologists than men," said Dr. Kerstin Ekö, a specialist radiologist at Visby Hospital in Sweden. "Women are not more intuitive than men, but we dare to rely on intuition more. Female doctors are also better at patient handling because we're more respectful and empathetic. It's just tradition: Men are brought up to suppress their feelings."

Furthermore, female patients might feel more comfortable having a woman doctor conduct breast and pelvic examinations, she said.

Prof. Janet Husband, a professor of diagnostic radiology at the Royal Marsden in Sutton, U.K., agrees that women's imaging should be performed by female doctors if the patient prefers it—and generally they do, especially when transvaginal procedures are involved, she added.

Other radiologists are less comfortable attributing specific charac-

NUMBER OF MALE AND FEMALE RADIOLOGISTS IN SELECTED EUROPEAN COUNTRIES, 1997

Country	Total	Male	Female
Denmark	650	357	293
France*	6842	4944	1898
Hungary	1135	381	754
Italy	6000	4500	1500
Poland	1500	600	900
Republic of Ireland**	120	95	25
Sweden	1138	910	228
U.K.	2728	1919	809
U.K. trainees	458	279	179

Source: National radiological societies

* Women account for 28% of radiologists, ranging from 14% in private practice to 30% in academic centers and 50% in general hospitals.

** Consultants only

teristics to female radiologists, maintaining that anyone who skillfully performs imaging deserves respect.

"I admire anybody who is extremely good at their job and helpful to other people," Carty said. "They have to be enthusiastic and transmit that enthusiasm to others."

FLEXIBLE HOURS

Some more cynical observers believe that women are attracted to radiology because of the convenient working conditions rather than personal and professional fulfillment. Radiology's working hours are more regular than many other specialties', which might tempt some doctors whose family situations require a more predictable work pattern.

Less convenient working hours are now being introduced in some hospitals as the amount of on-call radiology increases, due to the growing involvement of imaging in emergency diagnostic work-up. At Alder Hey, emergency coverage is provided at a consultant-level only, so the five pediatric radiologists are on call for at least one of every five nights.

Although part-time work and flexible scheduling are becoming more accepted, opportunities for radiologists to work part-time or during the

evenings depend on the department head and colleagues' work patterns. A core staff working fixed hours is still essential in most units.

"When I trained to be a radiologist between 1971 and 1976, I did four mornings a week. Most people qualified after about 3.5 years, but I took another 18 months," Husband said. "I continued working part-time until 10 years ago."

Appropriately, Husband is now the flexible training officer for the U.K. Royal College of Radiologists. Women who train part-time are usually very committed, she said, and the option of part-time work should not be confined to students. Carty, too, supports flexible working hours. Radiologists might elect to do their reporting sessions in off-hours without interfering with the daily work schedule, provided there is sufficient staff available to properly manage clinical problems, she said.

In Sweden, there is little opportunity for flexible working hours, according to Ekö. Radiologists with babies are sometimes allowed to work part-time, but most people use public child-care facilities, which charge fees based on salary.

State-owned Danish hospitals do not allow part-time work, Mathiesen said. This does not cause problems

when couples use the day-care system and both partners play a part caring for the home and family, he added.

In much of Scandinavia, parents share responsibility for newborns, and the maternity leave of absence is generous. In Sweden, female radiologists are granted two years' maternity leave, and male radiologists are obliged to take one month of paternity leave. In Denmark, the leave is six months and can be shared by both partners. Men are allowed to take the last three months of the period, he said. After six months, a day-care situation is guaranteed. If longer maternity leave is desired, radiologists can take up to a year at 60% of their salary.

The problem with maternity leave is that a woman doctor cannot advance as fast as her male equivalent if she is away from work for a considerable length of time. Such

long-term absences can hamper women's chances for promotion. Women are therefore at a disadvantage in countries where paternity leave does not exist and the child-care system is inadequate.

U.S. GROUP

The American Association for Women Radiologists (AAWR) was founded in 1981 to encourage greater participation by women at all levels in radiological societies, to develop women leaders, and to address social and economic issues facing women in radiology and radiation oncology. Such issues include gender equality, mentors in radiology, achieving positions of leadership, child care, and part-time careers.

The AAWR has sponsored a number of initiatives, including the publication in 1996 of the "Survival Guide for Women Radiologists: the

AAWR Pocket Mentor." This booklet includes advice on rotation strategies and acquiring technical and conferencing skills. It provides information on all aspects of gender-related work issues, networking, promotion, and tenure. The AAWR has no associated groups in Europe, but has several members in Germany, the Republic of Ireland, and the U.K.

The Italian Association for Women Radiologists was founded last year, but is independent of the AAWR. Such groups aim to help women radiologists become more visible in national radiological bodies and to campaign for improvements in work conditions that specifically affect women. ■

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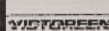
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