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Feb 1985

## Women in the field of Medicine

Would you believe that the first female physician to earn a medical degree was publicly ridiculed for her attempts to become a doctor? Edith Blackwell persisted and after three years of private study, she was admitted to the Medical Institute of Geneva, N.Y. But now the interesting part! The director was apparently reluctant to make a decision and so passed her application on to the students for approval. They thought it was a joke and agreed that the application "meets our entire approval". The most ungentlemanly behavior greeted her arrival - shock, hostility, cursing, and being spat upon. To make sure she felt most unwelcome, she was refused lodging and barred from some classes.

Like so many of the other women in medicine whom I have read about, she was graduated at the head of her class. This took place in 1849 so that most of her work was accomplished in the 19th century, but doesn't this exemplify the situation a woman confronts when she attempts to enter a male dominated field or profession.

Miss Blackwell went to Paris and London for more schooling and returned to New York City to open the New York Infirmary for Women and Children which was staffed entirely by women. Fifteen years later she added a medical college for women to the Infirmary.

On her next trip to London she helped to found the London School of Medicine for Women.

"We've come a long way baby!" Who said it first? I don't know, but because there is no chronological path for this paper we are weightless and doing thousands of miles per hour in space. The year is 1978 - about one hundred and twenty five years later - and man has accepted woman in his space program, NASA did have a bit of catching up to do - rebuild a room for a woman's bathroom and then install hair dryers, redesign helmets for a woman's head, a helmet that wasn't so heavy and huge it made her fall on her face.

Dr. Anna Fisher and her husband had both applied for the astronaut ~~position~~ <sup>program</sup> and in June of 1978 the two doctors moved to Houston sothat she could begin training for the shuttle program at the Johnson Space Center. Needless to say, he had to be a very devoted and unselfish husband in his disappointment of not being accepted. To add insult to injury, while he was out mowing the grass, she would fly by in a T38 jet and wiggle the wings at him. There is a happy ending, he went on to get an engineering degree and was later accepted into the program, making the Doctors Fisher the first husband and wife astronaut team.

As we all have heard, the training of an astronaut is thorough, diversified, intensive, and demanding physically as well as intellectually. One thousand hours of training are required for the first shuttle flight and one hundzed and thirty hours for the next flight. Included in the 2 years of training are 13 flights, each with its special requirement and the study in guidance and navigation, mechanics, meteorology, astronomy, physics, and computers. The only written test is on instrument flying.

Dr. Anna Fisher, a mission specialist, will be in charge of navigation, communication, and conducting scientific experiments aboard the spacecraft. One of the problems to be solved is the loss of calcium from bones during prolonged periods in space and the complication of broken bones.

In order to prepare herself physically, she lifts weights to improve her upper body strength, runs four miles every other day, and participates in racketball and volleyball games.

After participating in training exercises which included pulling two men from the shuttle, she revealed the she was five months pregnant. Her child was fourteen months old and in tne most excelent health at the time this article was written.

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This interesting statement by astronaut Bean: "It appears that women have an instinct for things like computers and hydraulics. You have to have an intuitive feel for spacecraft engineering. One of the nice surprises is that women are as intuitive as men." Now there's a whole topic for discussion - Women and Intuition. Did you have to be told that women were intuitive? Let's give Mr. Bean the benefit of the doubt - about hydraulics and computers anyway.

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Now we move back to the latter half of the nineteenth century again to meet a woman serving mankind in another capacity.

Though she lived the majority of her life in the nineteenth century, the organization that she created in 1881 is still very viable and much needed today. As originally charted, the American Red Cross could only help in time of war, but in 1884 one of Clarissa Barton's greatest achievements was the successful advocacy of the "American Amendment" to the Geneva Convention - a provision that permitted the Red Cross to provide relief in times of natural disasters and calamities as well as in wartime.

This willfull and independent young woman made teaching her first career for fifteen years before attending the Liberal Institute in Clinton, N.J. A year later, in 1852, she established a free school in Bordentown, N.J. which became so large that the townsmen would no longer allow a woman to run it. Not surprisingly, she resigned rather than subordinate herself to a male principal.

After several years of employment in the U.S. Patent Office, the Civil War rumbles allowed her to organize again. Facilities were needed to recover soldier's lost baggage and to secure medicine and supplies for men wounded in the first battle of Bull Run. Then she obtained permission to pass through the battle lines to distribute supplies, search for the missing, and nurse the wounded. No where in her biography did it mention an kind of training to be a nurse. One can suppose that most medical procedures at that time were very simple ones.

From 1866 to 1868 she lectured about what she had seen and done during the Civil War. It was determined in 1869 that she should go abroad for health reasons, but she soon became involved with relief work in the Franco-Prussian War.

Information about the recently organized International Red Cross aroused her enthusiasm, brought her back to the U.S. to lobby and campaign vigorously with the results that the U.S. was a signatory of the Geneva Convention in March 1882.

Miss Barton served as president of the Red Cross until 1904, during which time she devoted herself entirely to organizing, soliciting contributions and taking to the field with relief workers as late as the Spanish American War in Cuba. She would tolerate no interference and supervised the organization's activities so closely that the board members finally forced her to resign in 1904 with their charges of authoritarianism.

*She wanted what she wanted exactly when she wanted it and no other voice was given a chance to be heard. A rather intolerable situation was created for the board of directors - Their decision - Miss Barton must go!*

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Again I have chosen a woman born in the nineteenth century whose work carried over into the twentieth century, because she was an exceptional American Indian. Susan LaFlesche<sup>Picotte</sup>, the daughter of a chief, was born in 1865 on the Omaha Reservation in Nebraska.

She was taught the English language at the mission and government schools on the reservation and at the age of fourteen was sent to the Elizabeth Institute for Young Ladies in Elizabeth, N.J. for three years. The Hampton Institute in Virginia saw her graduated as class salutatorian with a gold medal for high scholastic achievement.

With the help of the Woman's National Indian Association (founded by two women in 1880) she entered the Woman's Medical College of Pennsylvania in Philadelphia. She completed their three year course in two and was graduated with an M.D. in 1889 at the head of her class of 36 students. Her age... almost 24.

After a year of internship she returned to the Omaha Reservation as a physician at the government school for children. What would seem to us as an unsurmountable task - no pun intended - her government duties were extended to all 1,300 Omahas widely scattered over the reservation and her mode of transportation - horseback - She was physician, nurse, and health teacher to all.

In 1894 she married Henry Picotte and settled in Bancroft, Nebraska where she set up a medical practice for both whites and Indians.

Her father had been a man of strong principles which she accepted. When the Town of Walthill was founded in 1906 she headed a delegation to Washington and obtained the stipulation that every deed for property in towns established on the Omaha and Winnebago Reservation should forever prohibit the sale of liquor.

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Although the Indians do not traditionally follow a woman, Susan Picotte was the real leader of the Omahas.

Her biographer described her as modest, unselfish, with a sense of humor and a broad tolerance of human frailty. She suffered severe pain from an infection of facial bones which eventually proved fatal, but she didn't allow the pain to lessen her activities.

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"The Heart to Live" is an article in the Negro History Bulletin about a black woman with a congenital heart condition- hardly a candidate for medical school. Barbara Lynn Ivey Yarn had open heart surgery in Knoxville in 1963 and again in 1968 at the University of Minnesota Medical Center.

In 1973, ten years after her first operation, she was graduated from Meharry Medical College and spent the next year interning at Freedom Hospital, Howard University. After spending some time as staff doctor and director of family affairs at the Munich Military Hospital in West Germany, she returned to the U.S. and was accepted at Emory University School of Medicine in Atlanta, Georgia for a residency in anesthesiology. She worked as an anesthesiologist at Memorial Hospital in Atlanta. When the article was written Dr. Yarn was the Medical Clinical Coordinator for the National Health Service.

Like many of the other women, she was active in dance and sports before her operations and was an organist, lecturer and public leader while continuing her medical career.



⑨ Women doctors were not only engaged in practicing medicine, they also pursued careers in research on vitamins and nutrition.

The effect of nutrition on health is slowly gaining recognition in the medical world. Grace Arabel Goldsmith was a physical education director of a YWCA in New Orleans when a friend talked her into applying to the Tulane University School of Medicine. One of six women in a class of one hundred and eight, she was graduated at the top of her class edging out Michael E. Debakey, who became a famous cardiovascular surgeon.

At the Mayo Clinic she was encouraged to pursue her interest in diseases of nutrition and metabolism and devoted the rest of her life to this research.

In 1936 after she earned her M.S. degree at the University <sup>of Minnesota, MN</sup> ~~School~~ Goldsmith returned to the Tulane School of Medicine as an instructor and received a full professorship by 1949.

At this time vitamin deficiencies and malnutrition were serious problems in New Orleans with many pellagra patients in the hospital. She conducted the first research on vitamin C deficiency and developed measurement tests.

A report, after a series of studies, unraveled many of the unknowns of nutritional deficiency diseases, proved the effectiveness of nutritionally enriched cereals, and applied new knowledge of nutrition to the advancement of public health. This 1940 report, Vitamin C Nutrition in Pellagra, was one of one hundred and fifty publications credited to her or coauthored by her. The pellagra research led to extensive studies on the B-complex vitamins.

One of her most important accomplishments was to institute at Tulane University, the first nutrition training for medical students anywhere in the world.

Again we have an energetic, superbly organized woman who excelled at everything she did. Dr. Goldsmith enjoyed gardening, was a gourmet cook, and loved giving parties. When asked, she said she never felt handicapped because she was a woman but admitted "on the whole, women have to work harder and do more and seldom are equally paid".

⑩ . More research is being done, not in the field of nutrition, but in the study of heredity.

Dr. Nancy Wexler, the president of the Hereditary Disease Foundation, had a double interest in the research on Huntington's disease. Not only was she concerned about this crippling disease for others but also because it had evidenced itself in her family's history.

In 1979 the foundation held a workshop on using recombinant DNA mapping to find the gene which carried Huntington's disease. This information did not appear spontaneously. Dr. Wexler traveled to Venezuela to a village where many members of a family succumbed to the disease. It was an excellent medical situation but a tragic family condition. She thought it would take years of study of the families before a breakthrough could be made but within four to six months they had conclusive evidence that the disease was carried by a gene.

No one had any idea where the gene might be nor any way of recognizing it if they found it. There are 46 human chromosomes and three billion base pairs of DNA to search through. The workshop was held to demonstrate that a restriction enzyme marker was found so close to the Huntington's disease gene that its presence can be used as an indicator for the disease. A restrictive enzyme marker is a piece of DNA that can be pinpointed with recombinant DNA techniques. The researchers were ecstatic and feel that it is only a matter of time until the exact location on chromosome 4 is found.

This finding means that a larger number of people at risk will be able to learn whether they will get the disease. The prediagnostic test is a mixed blessing and raises ethical questions. The prognosis is not good and what about marriage and children?

Folk singer Woody Guthrie died of this disease and much of his life recorded on motion picture film documents the ravages. The first signs appear between the ages of 35 and 45 years as ticks and clumsiness. Eventually the entire body is encompassed by adventitious movements such as body writhing and face twisting accompanied by intellectual decline. Sometimes

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preceding these conditions and going with them are serious emotional disturbances diagnosed as manic depressive or schizophrenia.

We can hope Dr. Wexler will be spared.

⑬ Again we go to research, but this may help children.

Early in 1985, the U.S. Food and Drug Administration is expected to approve the use of genetically engineered human growth hormone. The amount of the hormone available to physicians will be unrestricted.

Who should receive prescriptions for this hormone? Only those children who lack the hormone? Or should it also be prescribed for normal healthy children who are short? Thus another difficult ethical and medical dilemma will present itself to doctors.

Dr. Jennifer Bell, a pediatrician and growth hormone specialist at Columbia-Presbyterian Medical Center in New York said, "The pressure to treat will be enormous." Today's society thinks taller is better, and a boy should be at least 5 feet 9 inches, but 6 feet 4 inches is much better. Her concern, like that of many of her colleagues, is that doctors will give in to that pressure. In the face of studies that show how important height is to success she even worries about her own reaction.

"I've been burying my head in the sand, saying I want to know if it's safe before I make that decision", she said. "If it's found to be safe I hope I would have the strength to limit it. How can you say a child will be happier shorter or taller?"

In 1984 Dr. Selma Kaplan's office received almost daily calls from Athletes, parents and people in general who wanted to be taller. At that time the drug was scarce and had to be used only for children whose own growth hormone was lacking.

About 2,500 U.S. children are receiving human growth hormone, now obtained exclusively from cadavers. The federal government's National Hormone and Pituitary Program controls most of the available hormone and provides the drug without charge to children who are clearly deficient in the growth hormone and who are participating in research studies.

The human growth hormone is also available from two commercial sources in the U.S.

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Among the questions yet to be answered:

- 1) Will high blood pressure, diabetes and heart disease be side effects?
- 2) Will the final height of short children who produce the growth hormone be increased by supplemental amounts?
- 3) What price to charge?
- 4) How will the doctors handle parents who insist that a child should be given the hormone just to make him even taller?

A bit of interesting information: Lucille Barisonek, who lives in Somerset, N.J. has compiled and had published, "A Consumer Guide to Health Care in Middlesex County". This volume contains data on two hundred eighty two doctors, forty eight dentists, medical facilities and service, and other general information. This is the first in a series of books which will cover medical facilities and personnel in the state.

In conclusion I must say that the source material for this report was so fascinating that I almost forgot to stop reading and to start writing. There are several people about whom I have information, but was afraid the paper would be too long. There were at least two nurses I wanted to tell you about and didn't so I've asked Barbara to give you a brief report about Edith Cavell, nurse, spy, and heroine during World War I. Many many other nurses are our unsung heroines of public health as well as mainstays in the hospitals.

There were several obvious traits, common to each of the women reviewed - perseverance, stubbornness, concern for fellow man, determined, ability to lead, and the desire for physical activity. When these characteristics are coupled with intelligence, and the desire to learn and serve, a special being leaves her mark on the pages of time.

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Feb 11, 1985