

## **NPPS: A Brief History of the Early Years**

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The North Pacific Pediatric Society (NPPS) is a 501(c)(3), non-profit, Scientific Medical Education Society. The NPPS is one of the oldest international medical societies in North America. The NPPS was formed in 1919, eleven years before the American Academy of Pediatrics (AAP).

The NPPS membership is composed of medical personnel from all over the United States and Canada. However, the Society's membership is composed primarily of medical personnel from the Provinces of British Columbia, Alberta, and Saskatchewan in Canada; and, from the States of Alaska, Idaho, Montana, Oregon and Washington in the United States.

The Society holds two Scientific Medical Education Conferences each year. The yearly Spring Conference, giving 18 category 1 credits, is held during March, and the yearly Fall Conference, giving 12 category 1 credits, is held during either August or September.

### **North Pacific Pediatric Society: The Early Years**

Pediatrics was first officially recognized in 1880 when the American Medical Association (AMA) established a "Section on The Diseases of Childhood." Eight years later, in 1888, the American Pediatric Society was founded. That Society was the first medical specialty society in the United States. In 1896, Dr. Abraham Jacobi became the first president of both the American Medical Association Section on the Diseases of Childhood and the American Pediatric Society.

For a number of years, pediatricians (or "pediatrists" as they called themselves) in the Northwest had felt that their mutual interests demanded the formation of a local regional pediatric society. It was planned to discuss the formation of such a society in 1917, when the Washington State Medical Association (WSMA), met in Spokane, Washington. However, so few of the pediatrists were present that the idea, for the time being, was put on hold.

In June 1919, the Oregon State Medical Society secured Dr. Edward J. Huenekins, from Minneapolis Minnesota, to speak at their annual meeting, which was held in Portland Oregon. The pediatrists from Seattle, Spokane, and Tacoma Washington were invited to come to Portland to hear Dr. Huenekins and discuss the formation of a regional pediatric society. As a result, nine Northwest pediatrists met. They included: From Washington; Drs' Jay I. Durand and John B. Manning from Seattle; Dr. R. S. Miles from Tacoma; Dr. P. D. McCornack from Spokane; and, Drs' Joseph B. Bilderback, James Rosenfeld, Robert C. Hall, W. F. Patrick, and C. Ulysses Moore from Portland, Oregon. On June 26 and 27, 1919, the North Pacific Pediatric Society (NPPS) was formed.

Dr. C. Ulysses Moore was elected temporary Chairman of that first NPPS business meeting, and the officers for the ensuing year were elected. They included: President, Dr. P. D. McCornack of Spokane, Vice President, Dr. John B. Manning of Seattle, and Secretary-Treasurer, Dr. C. Ulysses Moore of Portland. A motion was made and carried that the Officers elected constitute a committee to draw up a constitution and by-laws for the Society, and report at 10:00 AM the following day at the Elks Lodge Rooms. The Meeting was then adjourned.

The first medical conference of the NPPS was held on June 27th and 28th, 1919. Dr. Edward Huenekins, a faculty pediatrician from the University of Minnesota, was the featured speaker. His presentations were published in Northwest Medicine (1)(2) and provide us with some fascinating insights into pediatric practice in 1919. In Dr. Huenekins' first presentation on "The Care of the Newborn, With Special Reference to Prematures" he described a then-novel proposal that newborn infants be cared for by pediatricians rather than obstetricians. The University of Minnesota Hospital was said to be the first hospital in the United States where this was done.

And, according to Dr. Huenekins, "This system has worked so well that the obstetricians are almost more enthusiastic about it than are the pediatricians".

1.) Northwest Medicine: 18: 150, August, 1919.

2.) Northwest Medicine: 18: 206, October, 1919.

Rickets and congenital syphilis were discussed at length. Both are rarely seen today. But, many of the other problems of infancy described then are still familiar to us today. Birth injuries were common and cerebral hemorrhage was present in half of the infants dying in the newborn period. Feeding problems, particularly the selection of a formula for those babies who could not be breast fed, were discussed at length.

Rickets was "by far the most common disease of infancy and childhood: probably one third of all babies have it to some extent". Treatment with cod liver oil and tri-calcium phosphate seemed effective. "Spasmophilia" (neonatal tetany) was also common. And, its relation to hypocalcemia and a cow's milk diet was also discussed. Calcium Chloride drops were used for treatment.

Prior to 1912, there were no reliable records of births and infant deaths. As a result, the United States Congress created the Children's Bureau as part of the Department of Labor. Because accurate statistics of births and infant deaths were unavailable, the first task of the Children's Bureau was the promotion of mandatory birth registration in order to assess infant mortality.

It soon became very apparent that both infant and maternal mortality were directly related to low family income and a lack of prenatal care. As a result, the United States Congress, in 1921, passed the "Sheppard-Towner Act" or "The Act for the Promotion of the Welfare of Maternity and Infancy". This legislation provided small grants to states to develop prenatal services for poor women and health care for poor children.

Organized medicine vigorously opposed the Sheppard-Towner Act. It was denounced by the AMA as "Bolshevistic . . . an imported socialistic scheme". In 1922, at the annual meeting of the AMA the House of Delegates passed a resolution condemning the "Sheppard-Towner Act". However, on the same day, members of the Pediatric Section, meeting separately, approved the Act. The following morning banner headlines in the St. Louis papers proclaimed the pediatricians' support of this controversial legislation.

The AMA House of Delegates was furious. So, the AMA House of Delegates promptly passed a formal reprimand of the AMA Pediatric Section. This reprimand was greeted by the AMA Pediatric Section with non-repentance and jeers. As a result, the AMA House of Delegates resolved that component sections would be required to confine their activities to academic issues. And, all of these Sections were forbidden to express any public opinion on any AMA policy.

Needless to say, these rulings made it impossible for the AMA Pediatric Section to act as an effective lobby for children. So, the establishment of another pediatric organization thus became inevitable. This inflexible opposition of the American Medical Association to any Federal Government involvement in health care thus motivated a concerned group of pediatricians (including several members of the North Pacific Pediatric Society) to found a new organization to improve the welfare of infants and children.

Today's pediatricians can be justly very proud of this legacy from over 80 years ago. For, on July 19, 1929, in Portland Oregon, following a concurrent meeting of the AMA and the 21st Scientific Medical Education Conference of the NPPS, a number of pediatricians met for dinner to discuss the formation of a new pediatric organization. This meeting took place at the home of Dr. James Rosenfeld, a Portland Oregon pediatrician and a charter member of the North Pacific Pediatric Society. (Dr. Rosenfeld's former house in Southwest Portland is now on the National Register of Historic Buildings.)

The opinions discussed were far ranging; but, by evening's end, the basic principles of a new national organization of pediatricians were defined. A few months later a constitution and by-laws were drawn up.

Eleven months later, in June 1930, about 35 pediatricians met in Detroit and formally founded The American Academy of Pediatrics (AAP). Dr. Isaac Apt was elected the first president of the newly formed AAP.

This new Academy was formed in response to the need for a national independent pediatric forum. For, when the Academy was established, the idea that children have special developmental and health care needs was a new one. The NPPS can be justly proud of the fact that, to a large degree, the formation of the AAP was greatly promoted by members of the NPPS.

Dr. Joseph Bilderback, from Portland, Oregon, another charter member of the NPPS and one of the pediatricians of the group that met in Portland, Oregon in 1929, became the fourth president of the AAP, from 1933-1934.

Preventive health practices that are now regularly associated with child care, such as immunizations and regular health examinations, were only just beginning. For, acute problems, especially infectious diseases, were the major concerns. And, the treating of children as unique persons, not just "miniature adults" was just beginning to occur.

Those physicians that cared primarily for children were, until the 1930's, called pediatricists; and, the specialty was often referred to as "Pediatry" or "Pedology". At that time, many of the laity and other physicians felt that pediatricists' responsibility ended when their patients were about two years old, or when all of their deciduous teeth had appeared. It took some time to correct this incorrect impression of the laity and other physicians that "a pediatricist was not just a baby specialist alone"; but, "a pediatricist is a physician trained in the care of older children also". It was during the 1930's that the term "pediatrician" finally came into common use; and, the specialty became known as "Pediatrics".

### **The Early NPPS Scientific Medical Education Conferences**

The 5th NPPS Scientific Medical Education Conference, in January 1921, was devoted to the infectious diseases, as were most of the other early conferences. Dr. E. Charles Fleischner, from San Francisco, discussed "Diphtheria".

Although most physicians today have never seen a case, this was a very common disease and, at that time, was the leading infectious cause of childhood mortality. In 1921 there were over 23,500 deaths from diphtheria. And, almost all of these deaths occurred in children less than 10 years of age.

Diphtheria was known to ancient Hebrews and is mentioned in the Babylonian Talmud. Aretaeus, a second century Greek physician, is credited with the first clinical description. He also first noted that fluids drunk by patients would often return through the nostrils. This was the first record of paralysis of the soft palate.

Diphtheria is a word from the Greek meaning skin or pellicle, which is a reference to the pseudo-membrane seen in the throat. The term "diphtheria" was suggested by Pierre Bretonneau in 1826. Bretonneau was also the first physician to clearly differentiate diphtheria from streptococcal pharyngitis and to use tracheotomy in treating the disease. Prior to that time, the disease had many names, such as: "throat distemper", "angina suffocative", and "morbus strangulatorius".

In 1883 Theodor Krebs discovered the bacillus associated with diphtheria. And, in the following year Freidrich Loeffler was able to produce the disease by swabbing animal throats with the organism. Definitive treatment finally began in 1913 when Emil von Behring developed an antitoxin against the potent toxin elaborated by the Krebs-Loeffler bacillus, or *Corynebacterium diphtheria*, as the organism was later named. The antitoxin was of equine origin and could cause very serious allergic reactions. It was useful in prophylaxis of children known to be exposed to diphtheria; but, it conferred only short term immunity.

It was not until 1923 (two years after this NPPS 5th Medical Conference) that diphtheria toxoid was finally produced by formalin treatment of the toxin, and immunization with the toxoid produced active, long-term protective immunity to diphtheria.

Diphtheria toxoid was widely used in immunizing most infants by the mid 1930's. This resulted in a dramatic decline in the number of diphtheria cases. As a result, today diphtheria is almost non-existent in North America. This is a development that would have seemed almost miraculous to those pediatricists in 1921.

Other infectious issues covered in the early medical conferences included: "Extreme Hyperpyrexia in a Case of Cerebro Spinal Meningitis"; "Infectious Diarrhea"; "Pertussis"; "Sinus Infection in Children"; "Swimming Pool Purification"; "The Present Status of Scarlet Fever Control"; "A Severe Case of Erysipelas with a great number of Muscle Abscesses"; "Tuberculosis of the Spine"; "Staphylococcus Aureus Osteomyelitis"; "Mumps Meningitis and Encephalitis"; "Streptococcemia with Pericardial Effusion"; "Poliomyelitis Epidemic in Spokane"; and, "Hereditary Syphilis".

Congenital syphilis, (hereditary syphilis, as it was usually then called), was a very common disease. It was the leading cause of spontaneous abortion and premature birth. Accurate statistics are unavailable since many babies were born and died at home. But, according to pediatric textbooks at the time, one third of the children of syphilitic mothers were stillborn and another third died in the first six months of life.

Congenital syphilis (lues), in both children and adults, was a protean, multi-system disease, leading William Osler to declare that "he who knows syphilis, knows medicine". In 1861, the English physician, Jonathan Hutchinson, catalogued the syphilitic manifestations in children, including the well-known "Hutchinson's Triad", which included: Interstitial keratitis, nerve deafness, and peg-like upper permanent incisors.

The historical saga of syphilis is a fascinating one. Although the origin of syphilis is obscure, it was believed that syphilis was imported from the New World to Europe by Columbus' sailors. In 1495, Nicolo Leoniceria, an Italian physician, published one of the first descriptions of syphilis, calling it the "French pox". However, the French writers, in a rare display of Gallic modesty, called syphilis the "Neopolitan Disease".

In 1535 Heronymus Fracastorius wrote a fanciful "Poetical History" of the "French Disease", in which an impious shepherd named Syphilis, was inflicted with the disease by vengeful gods. The poem was so enormously popular that "Syphilis", the mythical shepherd's name, soon replaced the other more geographic terms for the disease.

The first decade of the 20th century saw great progress in syphilis research. *Treponema pallidum* was identified in 1905; in 1906 von Wassermann discovered the serologic reaction that permitted accurate diagnosis; and, in 1909 Paul Ehrlich produced the arsenic compound "Salvarsan 606". Salvarsan 606 became the "Magic Bullet" that became the mainstay of treatment for syphilis until the advent of penicillin in the 1940's. As a result, one of the largest and most welcome changes in modern medicine has been the marked decrease in syphilis.

Now, most pediatricians are unfamiliar with this disease. For, syphilis had been one of the major causes of childhood mortality and morbidity. Any nostalgia we might have for medical practice in "the good old days" must certainly be tempered by the virtual disappearance of congenital syphilis in North America.

"Diabetes of Young Children" and "Acidosis Due to Diabetes and Other Causes", were also covered. For, juvenile diabetes was a rare and very rapidly fatal disease before the discovery of insulin. Treatment consisted of a high fat, low sugar and low starch diet. But, despite the diet, patients generally died within a few days to, at most, a few months.

Historically, diabetes is one of the oldest of all diseases. It was first described in the Egyptian Papyrus that Ebers wrote at about 1500 B. C. This was at least a thousand years before the birth of Hippocrates. Aretaeus, a Greek physician, gave a vivid and accurate account of the disease in

the second century A.D. He first named it diabetes, from the Greek word for siphon or pipe, referring to patient's excessive urination. Diabetes or "the Pissing evil" was well known to medieval physicians. Many bizarre remedies were concocted, but none were effective. In 1776, a large amount of sugar was found in the urine of diabetic patients. And, in 1889, Oskar Minkowski, a Russian physician, noted that pancreatectomized dogs rapidly became diabetic.

The therapeutic breakthrough in the management of diabetes occurred in 1921 with the discovery of insulin by Dr. Fredrick Banting and Charles Best, a second year medical student. Insulin first became commercially available in 1922; and, the following year, Dr. Banting received the Nobel Prize for that discovery.

An intriguing presentation of "Anaphylaxis with Edema of the Brain following Whooping Cough" was given by Dr. A. H. Gray of Seattle. It is difficult for today's pediatricians to appreciate the severity of pertussis in those times. In New York City, in 1890, it was the fifth most common cause of death in the first year of life. The mortality was highest in infants, and frequently exceeded fifty per cent in foundling houses and in orphanages.

The history of "Whooping Cough" (pertussis) is fascinating. A French physician, Guillaume de Baillou, first described the disease in 1576, in a classic and detailed account. The infectious nature and the fact that it was spread by droplets were well recognized. And, in 1900, the organism was identified microscopically by Jules Jean Bordet and Octave Gengou. However, the organism, *Bordetella pertussis*, was not able to be cultured until 1906.

A variety of treatments were recommended; yet none of which were effective. Emetics were extremely popular, and later tartar emetic, a mixture of antimony and potassium tartrate, was widely used despite its toxicity. A nineteenth century English physician noted that children in London died more often of pertussis than did those in the country. He attributed the difference to the common use of tartar emetic in the city.

A vaccine of killed organisms was first prepared by Lois W. Sauer in 1926. But, controlled trials of its efficacy were not carried out until between 1938 and 1942. By the late 1940's pertussis vaccine combined with diphtheria and tetanus toxoid began to be used routinely. However, there was the unfortunate controversy surrounding DPT immunization. It was thought by some that this immunization was a possible cause of encephalopathy. As a result, the opposition to using the immunization caused the significant increase in pertussis cases in England and in Japan.

Two non-infectious conditions were covered in depth on a number of occasions. Both conditions resulted in significant permanent morbidity, and mortality. The first was the concern for the role of the enlarged thymus as a cause of sudden death in infancy. The second was acrodynia (mercury poisoning).

The role of the thymus in childhood disease is one of the most unfortunate and erroneous chapters in 20th century pediatrics. In 1889, Arnold Paltauf, a German physician, proposed that an enlarged thymus was anatomic evidence of a constitutional weakness and that children with this were more likely to die from otherwise trivial causes. Following Paltauf's short report of only five patients, over 800 papers, (an enormous volume of literature), had been published by 1922.

"Status thymico lymphaticus" was often assumed to be the cause of sudden infant death. A thymic weight of over fifteen grams was felt to be pathologic proof of this condition. Acceptance, at least initially, by such well-known pediatricians as L. Emmett Holt of Babies Hospital in New York and John Howland of Johns Hopkins served to strengthen the myth of "status thymico lymphaticus".

In 1917, irradiation was introduced as a form of treatment of this supposedly enlarged thymus; and subsequently, irradiation was widely used. It was not until 1950 that thyroid carcinoma was shown to be a late consequence of this totally unnecessary "preventative treatment".

Dr. L. Howard Smith of Portland, in 1923, presented a paper at the 9th NPPS Scientific Medical Education Conference. He was able to demonstrate that the injection of paraffin wax over the heart surface proved that pressure from an enlarged thymus was not the most important cause, if any cause at all, for the sudden infant death in supposed thymic cases. It now seems likely that Dr. L. Howard Smith's conclusions at that 9th NPPS Medical Conference in 1923 were far more accurate than those of many other physicians of that time. It was only in the mid 1930's that "Status Thymico Lymphaticus" finally disappeared as a pathological entity in pediatrics.

Acrodynia (literally "painful extremities") was a fairly common disease in the first half of the 20th century. It was easily recognized by physicians because of its distinctive symptoms. However, its cause and an effective treatment went unknown for over 50 years. Acrodynia was first described in children in Australia in 1890 as "pink disease". In 1903 a report of similar cases termed "trophodermatoneurosis" was reported in Germany.

Probably the first description of acrodynia in North America was given by Dr. Joseph B. Bilderback, in 1920, at the 3rd NPPS Scientific Medical Education Conference. This presentation was published in Northwest Medicine that same year as "A Group of Cases of Unknown Etiology and Diagnosis", in which Dr. Bilderback discussed ten cases from his own practice. Dr. Bilderback noted "three cardinal symptoms . . . profuse sweating, red swollen hands and feet that were peeling and exquisitely tender, and pronounced asthenia". Dr. Bilderback was unaware of the previous reports from Australia and Germany, but he concluded (quite correctly) "in the absence of an increased temperature, I could hardly consider an infection but did consider a low grade toxemia".

Despite this astute observation, the cause of acrodynia remained an enigma for almost another thirty years after Dr. Bilderback's initial description. It was not until 1948, when Dr. Josef Warkany found markedly elevated levels of mercury in the blood of children with acrodynia, that the etiology was finally discovered.

It seems incredible that so many children could suffer from mercury poisoning in the twentieth century until one realizes that mercury was used in several forms to treat pediatric ailments. Calomel (mercurous chloride), a mild laxative, was a common ingredient in teething powders and vermifuges, and mercury bichloride was often used as a diaper rinse. Ammoniated mercury ointment was applied to almost any skin condition in the pre-antibiotic era.

Dr. Bilderback continued his interest in the disease, writing sections in several pediatric textbooks, reviewing articles on acrodynia and conducting a voluminous correspondence with physicians here and abroad. Despite his initial skepticism, he soon became an active proponent of mercury poisoning as the cause of the disease.

In 1966, Dr. Warkany gave the fourth annual Bilderback lecture "Acrodynia-Postmortem of a Disease". He pointed out that the disease had disappeared shortly after mercury compounds were no longer marketed for medical use. And, he recognized the efforts of Dr. Bilderback, one of the founders and an early President of the NPPS. Dr. Warkany concluded, "I can say without reservation . . . that there is nobody in this country who contributed more to the recognition and eradication of acrodynia than Joseph B. Bilderback".

These are just a few of the early pediatric diseases, problems, concerns, and issues that were discussed in depth during the early years of the North Pacific Pediatric Society.

The North Pacific Pediatric Society, since 1919, continues to be one of North America's premiere, most venerable pediatric organizations. From the first scientific medical education conference in 1919, the North Pacific Pediatric Society consistently presents up to date, cutting edge pediatric education programs.