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The Washoe Tribe and a Simple Herbal Remedy for a Mass Murderer: How 50 Million Deaths May Have Been Avoided

By second year student David Prosser,
Winner of the 2011 History of a Disease Essay

The 1918 flu pandemic has gone down in history as one of the most devastating diseases to sweep the world. Although commonly known as the Spanish Flu due to its misperceived severity and beginning in Spain where it was uncensored and more widely publicized, the first documented cases actually occurred in the United States at Camp Funston, Kansas. In two years, roughly one third of the world's population and 28% of Americans had contracted the virus. It is estimated that 675,000 Americans died due to contracting the virus, a number ten times greater than the number of Americans who died in World War I. Though these numbers paint the picture of a disease that left no stone unturned, a small Native American tribe in Northern Nevada may in fact have been the most successful population in combating the disease by employing a simple herbal remedy extracted from the root of Lomatium dissectum, a plant indigenous to the Great Basin.

As the state with the smallest population in 1918, Nevada was lacking the infrastructure manpower to reach the sparsely located rural populations comprising the majority of the population and was thus slow to report cases of disease. Once able to assess the spread of influenza, it was found that thousands of the state's residents had died from the virus. Though many of those thousands who died had been inhabitants of

- continued on page 2 -

History Making News

1. Book by Dr. Jerry & Jan Zebrack.
2. Dr. Joe George turned 99.
3. Memoir of Dr. Olga Kipanidze.

Dr. Jerry and Jan Zebrack have written a book about their family and Jerry's cardiology practice. The reader will find several inspiring

- continued on page 3 -

Doctoring In Nevada

For the past year, Doctors R. Daugherty and A. Sohn have been compiling essays by Nevada physicians on "Inspiration, Humor, and History" about the practice of medicine in Nevada during the last 50+ years. At present we have received 31 essays on inspiration and humor and 10 on history of medicine in Nevada. Our oldest

- continued on page 3 -

Indian reservations, Dr. Ernst Krebs, a physician working near Carson City, Nevada, discovered two striking facts concerning the local Washoe Indians. The first was the fact that, though members of the tribe had become ill with the virus, not one member of the tribe died from influenza or its complications. The second was the fact that the tribe had been using the root of the Lomatium dissectum plant to treat those who contracted the illness.

Lomatium dissectum, colloquially known as biscuitroot, is a rare species of plant in the parsley family that grows in semi-arid climates in the northwest region of the United States and parts of Canada. Up to the time of the flu outbreak, it had been used by the Washoe tribe to treat all fever-causing ailments. The method used by the Washoe tribe to extract the active product used for treatment was peeling the root of the plant, then boiling this root and skimming the oil off the top. A large dose of broth containing this extract was then given to the patient. One pound of the root was used to produce the medicinal product and it was given over a three-day period to tribal members that had contracted the Spanish Flu. Within one week's time of initiation of the treatment, all patients reportedly had a full recovery.

Krebs conceded to the fact that the use of the plant and the survival of all Washoe tribesmen that were given it as treatment for influenza may have been coincidental. Further supporting the utility of this plant extract in treating influenza, however, was Krebs's report that another physician used it in his practice to treat those infected with influenza that were described as hopeless cases. It was found that treatment of these patients using the extract alone led to a full recover Other physicians began catching on started using preparations of Lomatium dissectum to treat many Caucasians who had contracted the Spanish Flu, which they found great success. Krebs even went so far as to describe it as the most effective treatment of that time in treating influenza and any accompanying pneumonia. He praised the plant extract for its versatility, recording that it was more efficacious at treating a cough and longer lasting than the opiate expectorants of the day. He also noted that it was a bronchial, intestinal, and urinary antiseptic, and it also was able to slow the heart rate and lower the blood pressure. Supporting Krebs's assertion that this treatment had great versatility, in addition to treating the flu, native tribes used biscuitroot for ailments such as the common cold, arthritis, tuberculosis, and rheumatism.

The constituents of Lomatium dissectum have since been determined. The plant contains furanocoumarins and pyranocoumarins, both of which have been shown to have significant antimicrobial activity. The furanocoumarins, for example, have been shown to be effective in inactivation of both DNA and RNA viruses, and they also have antibacterial and antifungal activity. Also present are saponins, which are present in herbs used historically for medicinal purposes. For example, these herbs have been used as tranquilizers, expectorants, and antitussive agents. Ascorbic acid is also found in the plant and is thought to have immune -stimulating activity. Coumarins, which have been shown to be vasodilating agents and thus capable of lowering blood pressure, are found to be present in the plant as well.

Lomatium dissectum has further been shown to have both bactericidal effects to varying degrees against some of the most common infectious organisms, including Streptococcus pyogenes, Escherichia coli, Pseudomonas aeruginosa, Corynebacterium diptherium, and Mycobacterium tuberculosis. When adjusted for concentration, these effects were on par with penicillin. In addition, another study testing the plant's bacteriostatic and bactericidal activity against 62 strains of bacteria and fungi found at least partial inhibition of growth in all of these organisms.

As a result of the successful healing effects of Lomatium dissectum in treating influenza found both in the Washoe tribe and the subsequent trials performed by physicians, the plant enjoyed a short period of popularity with four manufacturing plants producing extracts. However, this period proved to be short lived, as its utility was somehow unable to catch the attention of medical professionals outside of its region of distribution. Interest in the extract waned soon after the end of the influenza pandemic and production on a commercial scale ceased.

The legend of the Spanish Flu and the devastating toll it took on the world is well known. Though modern day technology, in conjunction with the breadth

of information concerning disease, allow, for the most effective methods of treatment to be employed, it can only be described as amazing that the seemingly simple remedy used by the Washoe tribe was so effective as to not lose a single tribal member to one of the most infamous viral infections the world has seen to date. A disease that took the lives of so many of the world's population was no match for Lomatium dissectum. In the perspective of modern day, whether or not Lomatium dissectum could have had a greater impact by reducing the death toll of the flu of 1918 throughout the American population under the right circumstances is a moot point considering the theoretical basis of the question. However, there is no denying the impact this one plant had on a little tribe in Northern Nevada that defied the odds and cheated imminent death.

(See GW summer 1991 and spring 1997 for more discussing on the 1918 flu and its presence in Nevada.)

History Making News

and moving stories about his medical practice and significant changes that have occurred in cardiology in northern Nevada. The 550-page book, *Our Ride Together*, is beautifully illustrated and professionally done. It is a must read for those interested in the history of medicine in Nevada. The book can be purchased for $25 (includes shipping) by contacting the authors at JanZebrack@gmail.com or 38 Sierra View Lane, Reno, NV 89508.

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Dr. Joe George, one of our most loyal readers, turned 99 in May. Here is his letter from 2 April 2012. "Thanks again for the *Greasewood Tablettes*, always interesting. Good to see Dr. Sohn is getting help from Dr. Daugherty. Dr. Sohn has long been interested in the medical history of Nevada, and we have learned a lot thereby. Dr. Daugherty was a fine dean for the medical school. My daughter, June, was in the class of 1986 and has had a fine career as a surgeon for many years in Anchorage, Alaska. … Keep up the fine work. …Best wishes, Joe George (99 next month)." Dr. George's life is highlighted in our book, *Good Medicine*, which is about medical practice in Las Vegas and was published in 2000.

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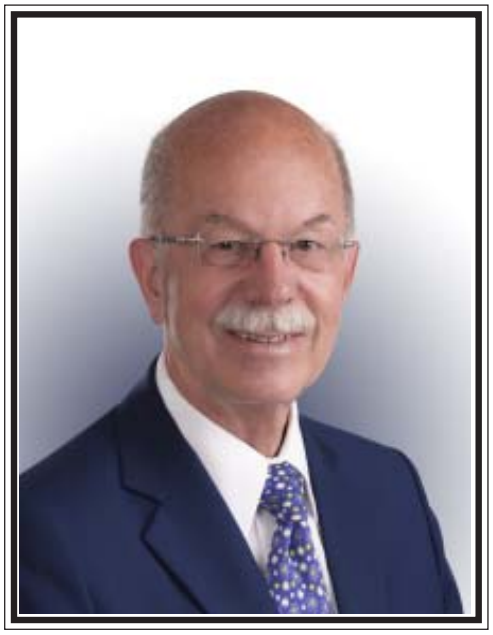
On May 7, we received a manuscript from Sally Zanjani that was written by Dr. Olga Kipanidze, who practiced in Reno for over 30 years and died in 1976. She was born in Serbia at the beginning of the 20th century, immigrated to San Francisco in 1930, and licensed in Nevada in 1935. Unfortunately, her 248 page autobiography is mostly social history and injustice in Russia and very little about her Reno practice, which was divided between anesthesia and general practice.

18th History of Medicine Banquet at the Eldorado

Former DA Cal Dunlap spoke about the Fallon Leukemia Cluster at the annual dinner held on April 3, 2012. The first Fallon child diagnosed with Acute Lymphoblastic Leukemia was identified in 1997, and since then, there have been a total of 15 cases. Scientific evidence involving ground water analysis and other environmental and genetic factors were discussed. Due to ongoing litigation some aspects of the leukemia cluster could not be discussed.

Over 100 attendees, including students, physicians, and general public attendees, enjoyed the dinner and presentation. Mr. Dunlap also revealed that he is running for the elected position of County District Judge in the 2012 fall election.



Former DA Cal Dunlap

Doctoring in Nevada

contributor graduated from medical school in 1947 and the most recent graduated in 2005. It is our intent to go to press in July. We will report on our progress in the fall issue of *Greasewood Tablettes* and have information on purchasing the book. Following is the latest list of contributors to *Doctoring*.

INSPIRATION & HUMOR

James Bakerink
"It is… worth the Fight
Theodore Berndt
"Grateful to be a Doctor
Eric Boyden
"A Quality Education…
Thomas Brady
"The Golden Days…
G. N. Christensen
"…Camaraderie
Hugh Collett
"Inspired by a Patient
Ronald Cudek
"I "Putt" …into Frustration
Robert Daugherty
"Leading the Way at UNSOM
John Davis
"Joy of House Calls
Tracy Delaplain
"Ivory Tower…Ranch …
Steven Dodge
"Dr. Grover C. Dils
Bernard Feldman
"… NV Neonatologist
William Feltner
"A Dream Comes True
George Furman
"Rewards Will be There
Karen Gedney
"25 Years in Prison
George Hess
"Medicine is Exciting…
David Johnson
"Leading… in Nephrology
Joseph Johnson
"Rock Doc of Vegas
Calton Lewis
"Medicine from the Ranch
Ed Lynn
"Comfort…A Great Life
Kirin Madden
"Nevada, My Home
George Manilla
"…Opening of Duck…
Paul McClintock
"…Taking Care of People
Grant Miller
"A Chocolate Each Day
Samuel Parks
"A Pathologist's Pts.
Marshall Postman
"…Helping So Many
Roderick Sage
"Dermatology…
Anton Sohn
"Nevada's Med. Hist.
Jack Talsma
"Delivered by …Eye MD
Robin Titus
"Being a Family Doctor
Nancy Waiganjo
"Being an MD…My Life
Paul Wilkes
"…A Baby to Love
Jerry Zebrack
"Struck by Lightening

HISTORY

"**Fred Anderson**
"**Les Moren**
"**The Fallon Clinic**
"**Carson City Surg. Ctr.**
"**George Smith**
"**Wes Hall, AMA Pres.**
"**Quincy Fortier in Pioche**
"**Ken Maclean**
"**Dr. Mary**
"**Otto Ravenholt**
"**Reno Medical Plaza**

GREASEWOOD TABLETTES © is a quarterly publication of the Department of Pathology, Great Basin History of Medicine Division, University of Nevada School of Medicine. Doctors Anton P. Sohn and Robert Daugherty are co-editors, Teresa Garrison is the associate editor, Lynda D. McLellan is our production manager, Dr. Sanford Barsky is publisher, and Kristin Sohn Fermoile is copy editor. The newsletter is printed by the Department of Pathology. **The cost of publication is paid for by a grant from the Pathology Department, School of Medicine.** The editor solicits any items of interest for publication. Suggestions, corrections and comments are welcome. Please feel free to email us at antonps@gbis.com or write us at Department of Pathology/ 0350, University of Nevada School of Medicine, Reno, NV, 89557. The name GREASEWOOD TABLETTES © is derived from the greasewood plant or creosote bush, a plant that was used by Native Nevadans for medicinal purposes. It is still the subject of pharmacological research today.