

HEALING AND THE MEDICINE OF THE NATIVE AMERICANS



Stephen Mortlock casts an eye back over history and the healthcare practices of the Native Americans.



The majority of the Native Americans descended entirely from a single group of migrants that crossed over the Bering land bridge between Asia and America that existed more than 15,000 years ago.

They adopted a hunter-gatherer society – men would hunt for large animals while the women would forage for fruits and any other edible plant-based food and hunt for small animals. Everything was shared with the whole tribe so they did not waste food as they couldn't store any surplus. When a large animal, such as a bison (*Bison bison*), was killed, that entire animal was used, there was no refrigeration, so the meat was distributed amongst everyone, cooked

to eat directly or smoked to make jerky for eating later. The bones and teeth were used to make weapons, personal decoration and fishhooks, and the skin was used for clothing, shoes or patching up tepees.

The origins of Native American healing practice and ceremony are as diverse and rich as the tribes themselves. And the healing practices varied widely from tribe to tribe, involving various rituals, ceremonies, and a diverse wealth of healing knowledge. At the heart of this would be the tribes' medicine man who was the spiritual guide of the tribe and its leader in an emergency, often holding a position equivalent to that of the war chief. Most tribes believed that health was an expression of the spirit and a continual process of staying strong spiritually,





mentally, and physically. Each person was responsible for their own health, and all thoughts and actions had consequences, including illness, disability, bad luck, or trauma. There had to be balance and harmony between themselves, those around them and their natural environment. If this was correct, “the Creator” would keep them away from illness or harm and health could be restored. Not surprisingly, herbal remedies filled an essential role within these healing practices, stretching beyond the body’s aches and pains and into the realm of spirituality and harmony. In 1832, George Catlin, the American adventurer, lawyer, painter, author, and traveller spent some time with the Mandan tribe who lived on the Knife River in Dakota. While there he met Old Bear, the tribe’s medicine man and watched as he instructed new students in the ceremonial practices of the tribe and showed them the collection and use of herbal remedies.

Although most herbs and natural products were gathered from their surrounding environment it has been theorised that if certain items were unavailable they would be traded for often over long distances.

Tobacco and cedar

The Creator gave Native Americans the Four Sacred Medicines to be used in everyday life and ceremonies; they are tobacco, sage, cedar and sweetgrass. All of them can be used to smudge (burning herbs and plants to release an aromatic smoke), though sage, cedar and



sweetgrass also have many other uses. The tribal elders would say that the spirits liked the aroma produced when the sacred medicines were burned.

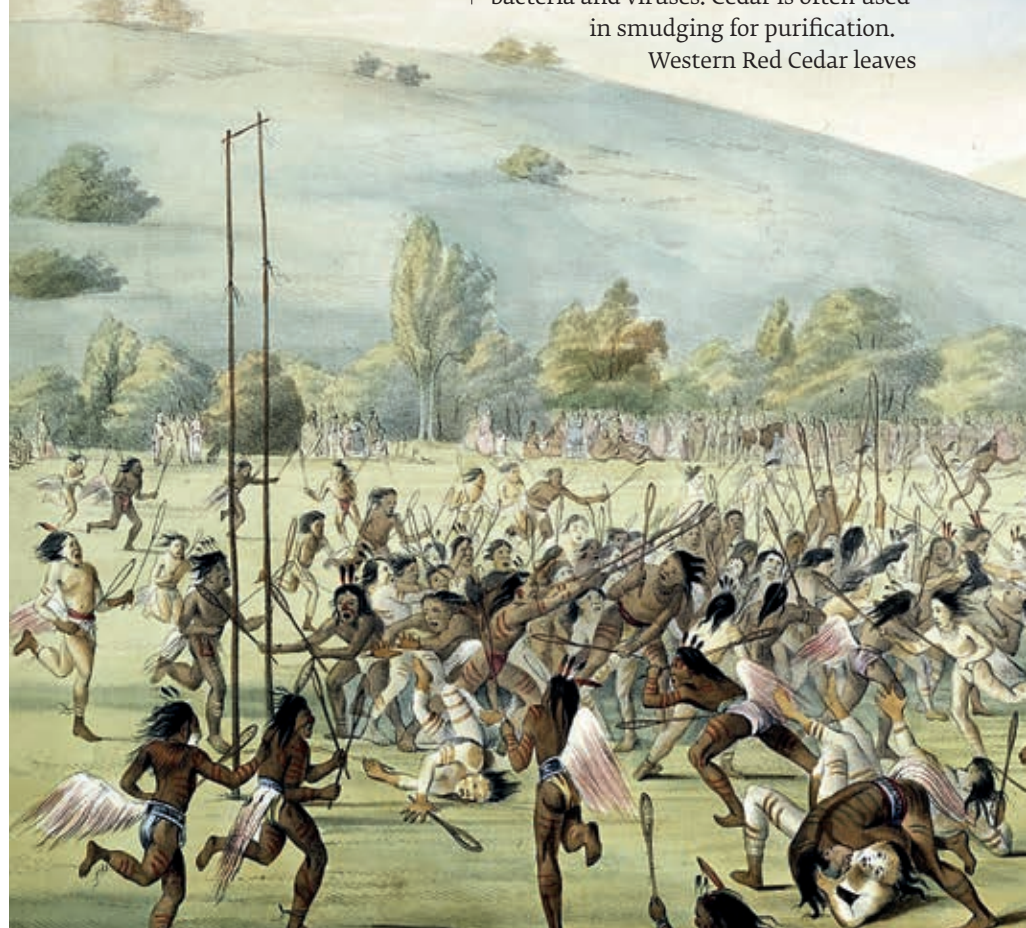
Indian Tobacco (*Lobelia inflata*) has a long-standing cultural history among native people, recognised as the first gift the creator bestowed upon the native people.

The herbaceous plants are annual or biennial, growing up to 100 cm tall, with tiny hairs covering the stems. The burning of tobacco during ceremonies honoured and welcomed guests in the sharing of a sacred peace pipe, but it also blessed food crops and an upcoming hunt, provided communication with the Creator, and bound agreements between tribes to ensure the general welfare of the

community. The tobacco plant was used by the Cherokee, Iroquois, Penobscot, and other indigenous peoples as a poultice or cold infusion to heal body aches, bites and stings, abscesses, or sores. It was chewed, made into an infusion, or a tincture for its emetic properties (it is often referred to as “puke weed”) and to help with a sore throat, asthma, or the prevention of colic. The Iroquois used the roots to treat venereal diseases and the Cherokee burned the foliage to smoke out gnats and unwelcome insects. However, consuming lobelia, especially the roots, can cause some extreme adverse effects, including sweating, diarrhoea, tremors, rapid heartbeat, mental confusion, convulsions, hypothermia, coma, and even death.

If you can imagine cedar trees (*Juniperus virginiana*) are found in cool, wet forests where fungi and moulds thrive it is not surprising that cedar oils have antioxidant and antibiotic properties which can repel insects, moulds, fungi, bacteria and viruses. Cedar is often used in smudging for purification.

Western Red Cedar leaves



have long been a popular internal and external medicine for painful joints among Coastal Native Peoples and are a useful antifungal for skin and nail fungus. It has restorative uses as cedar tea for fighting infections and fevers or as a cough medicine. Some studies indicate that cedar promotes immune function by helping the white blood cells to work better, stimulating the immune cells to fight infection.

Sage and sweetgrass

Sweetgrass (*Hierochloa odorata*) is a perennial plant with a vanilla-scented aroma that grows in North America, Asia and Europe. It contains coumarin ($C_9H_6O_2$), which has blood-thinning properties. The Native Americans used it as a purifying herb and as incense in smudging. It is said that the sweet-smelling smoke cleanses the spirit and brings sacred messages to the higher planes of existence. Herbal tea made from the leaves was used to treat coughs, sore throats and fever.

Apart from being mixed with onion



Sweetgrass contains coumarin ($C_9H_6O_2$) which has blood-thinning properties

to make a tasty accompaniment to the Sunday roast, sage has been used medicinally for generations. Sage (*Salvia officinalis*) is a perennial, evergreen shrub, with woody stems and grayish leaves. It is native to southern Europe and the Mediterranean region but has been naturalised to other warmer temperate climates, including North America. Traditionally, sage has been used in attempts to relieve pain, protect against



oxidative stress, free radical damage, angiogenesis, inflammation, bacterial and virus infection. Sage is applied directly to the skin for cold sores, gum disease, sore mouth, throat and tongue and swollen, painful nasal passages. The leaves have been made into poultices and used externally to treat sprains, swelling, ulcers and bleeding. It can be used for digestive problems and women have used sage for painful menstrual periods, to correct excessive milk flow during nursing, and to reduce hot flushes. It was also commonly used in tea form to treat sores and it is also considered one of the good herbs for coughs. Some studies have claimed that essential oils of sage can inhibit the enzyme acetyl cholinesterase (AChE), which is responsible for degrading and inactivating acetylcholine in Alzheimer's disease.

Goldenseal, garlic and ginseng

Goldenseal (*Hydrastis canadensis*), a member of the Ranunculaceae is a herbaceous perennial plant with upright, unbranched, finely haired stems, with two palmately lobed leaves. The Cherokee, Iroquois, and Micmac tribes used this plant to combat inflammation and infection and to boost the immune system. Its antibacterial activity *in vitro* has been attributed to its alkaloids, the most abundant of which is berberine ($C_{20}H_{18}NO_4$) found in the rhizome and the stems. The Cherokees also used it as a wash to treat skin diseases and sore eyes and mixed a powder made from the root with bear (*Ursus americanus*) fat for use as an insect repellent.

More recently, some studies have suggested that it is possible that berberine has anticancer properties and may be able to block the



proliferation of and to kill cancer cells.

Saw palmetto (*Serenoa repens*) is a dwarf palm tree of the family Arecaceae and is indigenous to the southeastern parts of the United States. But, saw palmetto fibres have been found among materials from indigenous people as far north as Wisconsin and New York, strongly suggesting this material was widely traded prior to European contact.

Saw palmetto berries have traditionally been used by American Indians to cure genitourinary disturbances and relieve mucous membrane irritations. Their use in treating prostrate inflammation has been documented since the 1700s and traditionally they were used to treat testicular atrophy, erectile dysfunction and oliguria.

Ginseng, the aromatic root of the Panax species (*Panax quinquefolius* and *Panax ginseng*), resembles a small parsnip that forks as it matures. The active ingredients of ginseng are ginsenosides ($C_{42}H_{72}O_{14}$), which are also called ginseng saponins and are abundant in the roots, leaves, stem, and fruits of the plant. It has been used as a traditional medicine in China, Korea, and Japan for thousands of years and some of the Native American tribes also used this component in their herbal remedies for digestive troubles and pain relief. The Muscogee people used a poultice of the root to staunch bleeding and a tea infusion to treat respiratory conditions and fevers. While the Meskwaki people of the Great Lakes region have used it as both an aphrodisiac and as a universal remedy for children and adults – an early health tonic!

Another plant that has been used since the early years of human civilisation, – both as a food and herbal remedy, is garlic (*Allium sativum*). Traditional knowledge of allium plants is widespread in all human cultures, where garlic, onion, leeks, chives, scallions and shallot are commonly used. The Cherokee used the plant as a diuretic, expectorant, mild cathartic and for scurvy, asthma, and prevention of worms.



“Goldenseal's antibacterial activity in vitro has been attributed to its alkaloids”

Cranberry and St John's wort

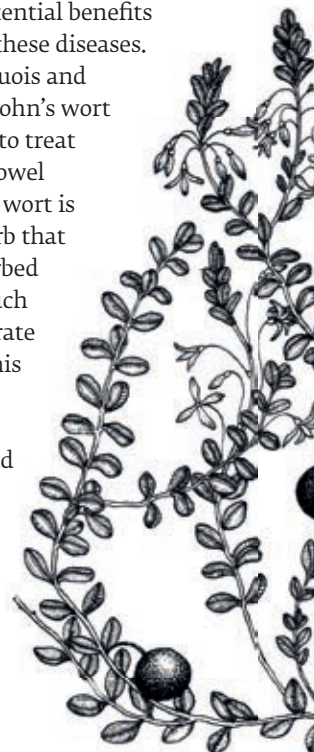
The cranberry plant (*Vaccinium macrocarpon*) is a low-growing, woody, perennial vine with small, alternate, and ovate leaves. The plant produces horizontal stems (stolons) growing to a height of up to six feet (2 m). Short, vertical branches, or uprights, 2–8 inches (5–20 cm) in height, grow from buds on the stolons, and these can be either vegetative or fruiting. Each fruiting upright may contain as much as seven flowers.

The Native Americans used cranberries in a variety of foods, the most popular being pemmican, a high-protein combination of crushed cranberries, dried deer meat, and melted fat (later consumed by Arctic and Antarctic explorers, such as Shackleton, Scott and Amundsen). They also used it as a medicine to treat arrow wounds and as a dye for rugs and blankets. While the Montagnais (a tribe from the northern shores of the Gulf of St Lawrence) used the cranberry to treat pleurisy.

Cranberries contain, amongst other things, anthocyanins and flavonols; these are a class of water-soluble flavonoids widely present in fruits and vegetables. Studies claim to have shown that these compounds exhibit a wide range of biological activities, including being an antioxidant, antimicrobial and

anti-inflammatory. It has been claimed that they promote health by protecting from various degenerative diseases and diabetes as well as enhancing visual function and slowing the progression of neurological disorders. Consumption of flavonoid-rich plant foods has been claimed to protect against cardiovascular diseases. It is known that the oxidation of low-density lipoproteins (LDL) is associated with cardiovascular diseases, so it is possible that flavonoids, compounds which possess antioxidant activity, will have potential benefits in the prevention of these diseases.

The Cherokee, Iroquois and Montagnais used St John's wort (*Hypericum perforatum*) to treat fevers, coughs, and bowel complaints. St John's wort is a sprawling, leafy herb that grows in open, disturbed areas throughout much of the world's temperate regions. The use of this species as a herbal remedy to treat a variety of internal and external ailments dates back to the time of the ancient Greeks. Since then, people have



attempted to use it as a treatment for anxiety, depression, cuts, and burns. Some recent research also claims the effectiveness of this herb in treating other ailments, including inflammation-related disorders, and bacterial and viral diseases, and as an antioxidant and neuroprotective agent. Two major active constituents have been identified: hypericin (a naphthodianthrone - $C_{30}H_{16}O_8$) and hyperforin (a phloroglucinol - $C_6H_6O_3$), which are now used as antidepressant, anticarcinogenic (photodynamic), antimicrobial and virostatic (human immunodeficiency and hepatitis C virus) agents.

Evening primrose, yellow flower leafcup and nettle

Evening primrose (*Oenothera biennis*) is a plant native to North and South America that also grows throughout Europe and parts of Asia. It has yellow flowers that open at sunset and close during the day. The oil from evening primrose seeds contains omega-6 fatty acids, including gamma-linolenic acid (GLA). Native Americans made poultices from the evening primrose plant for bruises and wounds and used its stem and leaf juices as topical remedies

for skin inflammations. The leaves were taken orally for gastrointestinal complaints and sore throats, while the roots were used externally to treat piles and boils. The whole plant – and especially the leaves – were boiled to make tea by Native American tribes as a stimulant to treat laziness and against “over fatness”. Contemporary records suggest that the Cherokee, Iroquois, Ojibwa, and Potawatomi used extracts for premenstrual and menstrual pain. In the 17th century, evening primrose oil became a popular folk remedy in Europe, where it was known as “King’s cure-all.”

Smallanthus uvedalia, also known as hairy leafcup, bear’s foot, and yellow flower leafcup is a herbaceous perennial of the family Asteraceae native to the Central and Eastern United States. It was reportedly used internally by Native American Indians for laxative properties, as well as a stimulant and also to treat swollen glands, especially mastitis. The Cherokee used a salve of the roots to treat burns and cuts, while the Iroquois took an infusion of the plant for back pain and as an antiemetic but, conversely, the Cherokee supposedly used a tea made from this plant to induce vomiting, though it is possible they used different parts of the plant to achieve this effect.

And who knew that the humble stinging nettle (*Urtica dioica*) had such a universal healing tradition? Certainly, contemporary records show that in ancient Egypt, the nettle was used as an infusion to relieve arthritis, while Roman soldiers brought nettle plants to the British Isles to soothe their aching joints and painful legs after a long day campaigning. Almost all of the Native American tribes knew how to prepare this plant by boiling the leaves in water prior to eating; the Mohegans ate this plant



“Who knew the humble stinging nettle had such a healing tradition?”

with pigweed (*Amaranthus retroflexus* – the leaves of which are high in vitamins A and C and folate, as well as calcium) and dock greens (*Rumex obtusifolius* – which contain high levels of oxalic acid). The nettles, along with other medicinal herbs were used in the sweat lodge for detoxing and poultices were applied to those patients who suffered from pain and arthritis. The Paiute, however, used the leaves and stalks as a temporary flail on their arms and legs to achieve a similar benefit. The Abnaki created a snuff of the dried and powdered leaves that was used for nosebleeds and the Sioux used a tea to treat urinary issues, while many other tribes drank the tea as a general health tonic or a digestive aid.

Well-tried efficacy

The American missionary John Heckewelder (1743–1823) noted that in Native American tribes there were physicians of both sexes, who would take considerable pains to acquire a correct knowledge of the properties and medical virtues of plants, roots and barks, for the benefit of their patients. And that their science was founded on observation, experience and the well-tried efficacy of the remedies being used. Frances Densmore (1867–1957) the American anthropologist and ethnographer observed during her travels that the practitioners were able to heal wounds and cure diseases by the simple application of natural herbal remedies. She also noted that different healers often knew individual medicinal plants by multiple names, some unique to a



particular individual, and would gather and collect the herbs at the proper seasons, sometimes fetching them from the distance of several days' journey from their homes, then they would cure or dry them properly, tie them up in small bundles, and preserve them for later use.

Conclusions

Some of the Native American tribes have become immortalised through numerous reruns of old western films; the Apaches, the Cherokee or the Sioux and their chiefs live on in history – Sitting Bull, Geronimo and Crazy Horse.

In reality, it was a history of greed, tragedy and betrayal by the colonising Europeans. What started out as the mutual trade between the indigenous population and the colonists deteriorated over time as imported diseases like smallpox, tuberculosis, measles, cholera, and the bubonic plague decimated the native populations.

The colonists viewed the indigenous people as subordinate and uncivilised due to their nomadic lifestyles and “underutilisation” of the land. Relations worsened and over a period of 300 years, from 1609 to 1900, there were bloody conflicts and involuntary relocation until Native American tribes went from inhabiting their ancestral lands, which could encompass an entire land area, to living on specifically defined native reservations.

Today, many tribes in the United States are now reviving their traditions and cultures from teaching their language to the next generation, holding inter-tribal gatherings and exploring the role of traditional medicine. Native American traditional healing takes the holistic



approach on the whole person with herbal remedies, ceremonies, prayers, and the inclusion of the family all being part of the healing journey and today traditional healers have found that combining modern medicine with traditional healing produces better health outcomes than from modern medicine alone.

Native Americans are being encouraged to return to more traditional forms of eating as part of the effort to address health issues like diabetes, obesity and heart disease often associated with a highly processed western diet. Because of this there has been an increasing demand for buffalo meat following studies that have shown the meat to be a leaner and less atherogenic risk than beef. The buffalo is well-adapted to the wide grass plains as its natural habitat and as a result the meat contains a lower total fat content and provides a more favourable fatty acid composition compared to animals that have spent a greater portion of their life eating corn. So, there has been a return of the buffalo, nearly hunted to extinction in the 1800s, with many animals now being bred for commercial purposes on farms and herds reintroduced into national parks as a part of conservation breeding programmes.

Bison are migratory herbivores who move across large areas, grazing almost exclusively on grasses, the result being that other plants normally dominated or overshadowed grow better, creating a more diverse mosaic of habitats. The bison also modify the environment by trampling woody vegetation, wallowing (rolling on the ground repeatedly to avoid biting insects and to shed loose fur), digesting vegetation and excreting their waste across large areas, which increases seed dispersal and nutrients over the landscape. This behaviour helps to increase arthropod, amphibian and plant diversity.

This biodiversity has seen the increase of birds such as the greater prairie chicken or the scaled and bobwhite quails. Larger animals like the pronghorn antelope and mule deer are among the large mammals that benefit as the bison grazing increases the abundance of forbs (herbaceous flowering plants) and shrubs that constitute the dietary mainstays of both species.

Just as the reintroduction of grey wolves into Yellowstone national park had a positive effect on the park ecosystem, perhaps the return of the buffalo will help to rewild the great plains for the benefit for everyone. 