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MEDICINAL CANNABIS

History The cannabis plant has been used commercially for fiber oil, paper and medicine, as well as recreationally for thousands of years. It likely wasn't until the early 19th century that the medicinal use of cannabis spread from China and the Middle East to the population of Europe and then, in the middle of the 19th century to America. Tincture of cannabis preparations were popular patent medicines from the 1880s to the 1930s. They were manufactured by such firms as Eli Lily, Squibb, Merck, Parke-Davis, and the Smith Brothers. They continued to be manufactured and used but they decreased in favor because the product was hard to standardize and had a relatively short shelf life. THC was isolated in 1964. The first formal physiologic research was done at Harvard by Integrative Medicine guru Dr. Andrew Well in 1968. Recent double blind research in the UK and at UCSF scientifically confirms several of the historical medicinal uses.

CONSTITUENTS AND CHEMICAL CHARACTERISTICS:

Marijuana contains 483 chemical compounds. The active ingredients in cannabis are

called cannabinoids. There are many cannabinoids produced by the plant. The main psychoactive substance is generally believed to be delta-9- tetrahydrocannabinol (hereafter referred to as THC), but at least 65 other cannabinoids (C21-containing compounds) have been identified in the pyrolysis products. Cannabinol and cannabadiol are the other major cannabinoids present. The average content ofdelta-9-THC in marijuana plants usually ranges from 0.3% to 4% based on the climate, soil and growing conditions, and handling after harvest, but values as high as 20% have been achieved in some preparations.

ANANDAMIDE RECEPTOR:

At present, it is felt that a combination of cannabinoids (cannabinoids comprise 66 of the 483 or so chemicals found in cannabis) affect receptors found both in the brain and in the peripheral nervous system. These are receptor sites for an endogenous (made in the body) neurotransmitter called anandamide. Exactly how cannabis works is not yet clear, but it does act at different binding sites than opiate medication and likely slows down or decreases some neurotransmissions.

DOSE

The effective dose of THC is usually considered to be between 2 and 40 mg. when

smoked, and between 20 and 90 mg. when taken orally. Under normal smoking conditions, 16 to 19% of the THC in the cannabis cigarette (joint) is consumed, the rest is pyrolysed.
For example a 1 gm. cannabis cigarette containing 10% THC cannabis, has 100 mg. of THC. However this is not the amount which is delivered to the patient. If smoked cannabis cigarette delivers no more than 30% of the THC in the cigarette to blood stream. Agyerethe in 1986 found that smoking destroys 30% of THC. An additional amount is lost to air and left in the butt or stub (roach). Nevertheless, according to 9th report of the House of Lords, Select Committee on Science and Technology, smoked cannabis is more efficient than oral-consumed cannabis. So, a smaller dose is required for the same effect if the cannabis is smoked.
The lethal dose is not known. Tests with animals indicate that the relation between the lethal and the effective dose can be estimated at 4,000-40,000. For comparison, the amounts that have corresponding relation for alcohol is 4-10. The government in their IND program provided the amount of cannabis necessary to obtain a therapeutic result. This is 7 Ibs. per year.

BALF-LIFE
When THC enters the blood stream, it is rapidly absorbed by the fatty tissue (half life 30 mins.). It then returns gradually to the blood, is metabolized, and is eliminated in urine and feces (half life: a few days!). Repeated use leads to accumulation in fat and liver, but not in the brain. As a result in the chronic user, THC metabolites can still be found in the urine weeks after use.

ONSET OF AFFECTS
When smoked, the acute effects begin to appear after a few minutes. The plasma concentration peaks after 7 to 10 minutes, but the peak effect is only felt after 20 to 30 minutes. Some effects may last for 2 to 3 hours. When consumed orally, it only takes effect after 1 to 2 hours, and the effect lasts for 5 to 12 hours.

After oral administration, dronabinol (Marinol - synthetic delta 9 tetrahydrocannabinol) has an onset of action of approximately 0.5 to 1 hours and peak effect at 2-4 hours. Duration of action for psychoactive effects is 4 to 6 hours, but the appetite stimulant effect of dronabinol may continue for 24 hours or longer after administration.

When you should not take this medicine:

Do not take this medicine if you are breastfeeding, or have ever had an allergic reaction to cannabis (marijuana).

How to take and store this medicine:

- Take medicine as required for relief of symptoms.
- Keep all medicine out of reach of children.
- Store in cool, dry place.