Note: Cannabis remains inappropriately classified under Schedule One of the U.S. Federal Controlled Substances Act. State laws permitting cannabis use do not invalidate the Federal prohibition. It remains illegal under federal law to use, possess or cultivate cannabis.

Cannabis is the botanical name for the plant composed of three main cultivars: sativa, indica and ruderalis. It belongs in the Family Cannabinaceae. Cannabis is a woody, annual, dioecious plant, which grows outdoors in temperate climates (as well as under indoor cultivation) world-wide. It is known for intoxicating, euphoric and medicinal effects, which are based upon activation of the endocannabinoid receptor system.

Indications: Cannabis has been used for thousands of years as a remedy for many afflictions. Recent research has shown a number of beneficial effects including:

- **Intraocular pressure reduction** in the eye;
- **Appetite stimulation** for treating nausea and wasting syndrome;
- **Antiemetic** effects for persons undergoing chemotherapy or radiation;
- **Antispasmodic** effects in treating muscle spasms, like multiple sclerosis;
- **Analgesic** effects which interrupt pain signals both centrally and peripherally;
- **Antianxiety** and sedative effects mediated through neurotransmitter action;
- **Harm reduction** substitute for opiate, tobacco and alcohol addiction;
- **Antitumor** effects, which decrease and interfere with abnormal cell proliferation.

Side effects: Most common side effects include: dry mouth, transient hypotension, transient increased heart rate, and somnolence. Less common side effects include panic symptoms, hyperventilation, and chest pain (angina). There is no evidence of dosage-related mortality.

Contraindications: Cannabis is not recommended for patients with chronic severe liver failure (unless palliative), unstable psychosis, cardiac function abnormalities, allergy to cannabinoids, or cannabinoid hyperemesis syndrome.

Dosage: 3-6 mg “Marinol equivalents” by mouth, inhalation (vaporizer, joint) to titrate effect. Use smallest dose for desired effect. Time of day and environment effect dose response. Number of puffs needed, or the size of the brownie may change with different strains.

Onset/Duration: Inhalation (pipe, joint, vaporizer) rapid onset 2-10 minutes, peak blood level 30 -60 minutes, duration 1-5 hours. Ingestion (Non-smoked; tincture, oil, ghee, food) slow onset 1-3 hours, peak blood level 2-5 hours, duration 3-6 hours. Carefully titrate dysphoric effect (high) for symptom relief with minimal impairment.

Route: Effects are route-dependent. Cannabis can be inhaled (vaporized, smoked), taken as food (medibles or cannabis-infused edibles), elixir, or suppository. It is generally rolled into joints or smoked in pipes for rapid onset of homeostatic regulation. Eating cannabis requires 2 hours to attain maximal response due to slow hepatic circulation. Pulmonary ingestion rapidly passes cannabinoids through pulmonary circulation to the brain passing the blood-brain barrier in minutes. Fifteen minutes after smoking is the maximum cannabinoid dose. A safe setting is always required for the dysphoric effect of cannabis to be comfortable.

Patient Teaching: Carefully titrate (measure) the dosage of any unfamiliar strain using small amounts until desired dosage is achieved. Inspect all medicine for bugs, dirt, debris, chemical smells, mold, and color. Medical-grade cannabis is fresh smelling and green. Discard moldy cannabis. Damp or un-cured buds may be baked in an oven at 200 degrees for 5 minutes. Buds should be fresh-smelling, green, moist and intact. “Homeostatic reregulation” is always best accomplished in a safe, comfortable, secure environment. Don’t drive, operate machinery if experiencing dysphoric effects. Naive (new to cannabis) users should use the smallest dose available to measure comfort level and gradually increase dosage as desired. Time of day and strain should be matched in order to bring relief. A sedative indica in the evening, or a high CBD strain will have markedly different effects than a sativa strain high in THC. Use strains recommended by other patients for the same condition.