Cannabis Medicines for the Treatment of Spondyloarthritis

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About Me

- Dr. Allan I. Frankel
- 38 years as a practicing Internal Medical Doctor, specializing in the use of dosed cannabis medicines for the past 11 years
- Recommended dosed cannabis medicines to over 10,000 patients during this time
- Graduate of the UCLA School of Medicine
- Presented multiple CME accredited Grand Round Lectures on Internal Medicine and Therapies in Medical Cannabis. Participated in round table discussions on the topic of future therapies and research for Medical Cannabis sponsored by the California Medical Association and the Los Angeles County Medical Association
- Clinical Professor for 18 years for the University of California Los Angeles School of Medicine
- Developed the Chartscape medical software program used by the UCLA Bowyer Cancer and the eScript medical software utilized by Kaiser Permanente Health System

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How I Discovered Cannabis Medicine

- Following two debilitating health issues, I searched for alternatives to traditional medicines.
- I researched cannabis and found it to have the potential to relieve the symptoms of multiple chronic and serious illnesses.
- Cannabis is significantly less addictive and has less side effects than many pharmaceuticals used to treat illness.
- What was lacking in cannabis medicine was true dosing.
Overview

- Spondyloarthritis, or SpA, is the term given to a group of related rheumatic diseases.
- SpA is a form of inflammatory arthritis, whose key symptom is systemic inflammation.
- SpA may involve inflammation of the pelvis and spine, pain and swelling of other joints of the body, pain and redness in the eyes, inflammation of the intestine, fingers, toes and feet.
Types of SpA

- SpA is currently classified in two ways:
  - The Traditional SpA Classification System
  - The Newer SpA Classification System

- The Traditional SpA Classification System includes Ankylosing Spondylitis, Enteropathic Arthritis (Arthritis associated With Inflammatory Bowel Disease), Psoriatic Arthritis, Reactive Arthritis, Undifferentiated Spondyloarthritis and Juvenile Spondyloarthritis.

- The Newer SpA Classification includes Axial Spondyloarthritis and Peripheral Spondyloarthritis.
The common treatment for the various forms of SpA include medications, exercise and posture, diet and nutrition, complementary treatments, stress reduction, the application of heat and cold and surgery.

Although many different therapies and medications have been used to treat SpA over the years, in September 2015, the first treatment guidelines for ankylosing spondylitis and non-radiographic axial spondyloarthritis were released by the American College of Rheumatology, the Spondyloarthritis Association of America and the Spondyloarthritis Research and Treatment Network.
Traditional Medications

- There are many different types and classes of medications used to treat SpA.
- As with any medication, different individuals will have different results and side effects, and each individual must evaluate the relative risk/reward for the various traditional medications.
- The traditional medications include:
  - Nonsteroidal Anti-Inflammatory Drugs
  - Sulfasalazine
  - Methotrexate
  - Corticosteroids
  - Biologics
Cannabis Medicines as an Alternative and Complementary Therapy
Systemic Effects of Cannabis

- Anti-inflammatory
- Anti-spasmodic
- Mitochondrial Modulation
- Immune System Modulation
Specific Conditions

- Anxiety
- Neuropathic Pain
- Autistic Spectrum
- Irritable Bowel Disease
- DJD and Metastatic Disease
- Parkinsons Disease
- Dementia
- Myasthenia Gravis
  - Mitochondria
- Traumatic Brain Injury
- Insomnia
- Seizure Conditions
- Migraine
- Multiple Sclerosis
- Diabetes
- Cancer
  - Palliative
  - Anti-Proliferative
Potential Therapeutic Uses

- Epilepsy
- Gliomas
- Alzheimer's
- Fibromyalgia
- Dystonia
- Hepatitis C
- Diabetes
- Pruritis
- Osteoporosis
- MRSA
- Huntington's Disease
- Multiple Sclerosis
- ALS
- Chronic Pain
- Tourette's Syndrome
- HIV
- Hypertension
- Sleep Apnea
- GI Disorders
- Incontinence
- Rheumatoid Arthritis

Potential Therapeutic Uses of Medical Marijuana

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Mechanisms of Action
Cannabinoid receptors are divided into 2 primary types, cb1 and cb2.

**CB1** receptors are mostly in the brain.

**CB2** receptors are primarily within the immune system.
Cannabinoid Receptors

- **Putamen**: Regulate movements and influence various types of learning
- **Globus Pallidus**: Regulate voluntary movements
- **Amygdala**: Responsible for anxiety, stress, emotion, fear, and pain
- **Hippocampus**: Memory and learning
- **Substantia nigra**: Important role in reward, addiction, and movement
- **Caudate nucleus**: Learning and memory system
- **Hypothalamus**: Body temperature, feeding, neuroendocrine function
- **Cerebral cortex**: Decision making, cognition, and emotional behavior
- **Cerebellum**: Motor control and coordination
- **Dorsal vagal complex**: Emesis

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Neurotransmission
Cannabinoids as Essential Nutrition

- Endocannabinoid Role in Maintaining Your Body’s Homeostasis
- Clinical Endocannabinoid Deficiency Syndrome
  - Fibromyalgia
  - Migraine
  - Irritable Bowel Syndrome
- Endocannabinoid “Tone”
- Cannabis as a supplement
The Key Players

Phyto Cannabinoids

- THCA (tetrahydrocannabinolic acid)
- THC (tetrahydrocannabinol)

Endogenous Cannabinoids

- CBDA (cannabidiolic acid)
- CBD (cannabidiol)
- Anandamide
- 2-AG (2-Arachidonoylglycerol)
The Major Cannabinoids

- THC
- CBD
- THCA
- CBDA
- CBG
- CBC
- THCV
- CBDV

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Benefits of the Major Cannabinoids

- Analgesic
- Anorectic
- Anti-inflammatory
- Anti-ischemic
- Antibacterial
- Antidiabetic
- Antiemetic
- Antiepileptic
- Antimicrobial
- Antiproliferative
- Antipsoriatic
- Antipsychotic
- Antispasmodic
- Anxiolytic
- Bone stimulant
- Immunosuppressive
- Intestinal anti-prokinetic
- Neuroprotective
- Vasorelaxant
The Entourage Effect

In addition to the primary cannabinoids, cannabis medicines deliver:

- Other Major Cannabinoids
- Minor cannabinoids
- Terpenes
- Flavonoids
- Waxes
Hemp as an Alternative Cannabinoid Therapy

- Value as a therapy
  - Terpene and Cannabinoid Profile
  - Patient Response
  - Dosage
- Source issues- Eastern Europe, China, Domestic
- Conclusion
CBD Medicines
Cannabis vs. Hemp vs. Synthetic

- There are three types of CBD available to patients. The first is from the Cannabis plant, the second is from the Hemp plant and the third is made in a laboratory.
- CBD from the Cannabis plant is extracted from the flower and leaves of the plant and contains hundreds of minor cannabinoids, terpenes and flavonoids.
- CBD from the Hemp plant does not have as robust a profile of minor cannabinoids, terpenes and flavonoids.
- Synthetic CBD, which is created in a laboratory, has only a CBD molecule and does not contain any other compounds.
- In my clinical experience, CBD from the Cannabis plant is much more effective in relieving patient complaints at lower dosages than Hemp or Molecular CBD.

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Cannabis and the P-450 System

- The interaction of Cannabis medicine with Cytochrome P-450
- The effect of different Pathways of Cannabis administration
- The effects of THC and CBD on Cytochrome P-450
- Effect of changes in Cytochrome P-450 on other therapies
  - Cancer
  - Seizure Conditions
The Normalization of Cannabis Medicine
The Medical Cannabis Visit
Patient Complaint
Expected Outcome
THC Experience - Very Important
Any Contraindications/ Drug Interactions
Start Low - Go Slow
(Most of the time)
Consistent Accurate Dosage Products
Know the Relative Psychoactivity of Products
Determine Condition Appropriate Medication
Adjust Medication Based on Patient Reaction Relative to Psychoactivity Scale
Psychoactivity Scale

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CBD Dominant (P.A. 1 - 4)  THC Dominant (P.A. 6 - 7)  THC Only (P.A. 8 - 10)
For Additional Information
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