Navigating Medical Cannabis in Cancer Care: Evidence, Essentials and Ethics

Kelay Trentham, MS, RDN, CSO
Lead Oncology Dietitian
MultiCare Regional Cancer Center, Tacoma, WA

Disclosures

- None
Learning Objectives
At the conclusion of this session, participants will be able to:

- Discuss evidence for efficacy of cannabis for cancer symptom management
- Describe cannabis pharmacokinetics, contraindications and contextual information to consider when guiding its use
- Describe the regulatory basics of medical use in Washington & Oregon
- Use a bioethics framework when discussing medical cannabis use with patients, caregivers and healthcare providers

What Cannabis is...

- A plant From the Cannabaceae family:
  - Hops
  - Hackberry

- Cannabis by any other name:

Is still Cannabis!

(Russo 2007)
Early History

- Written history of medical use:
  - >3,500 years ago: Egypt
  - 1st - 2nd century CE: China

- Intro to modern Western medicine: 1839

(Russo 2007; Backes 2014)

Later years...

- Mid-1930’s: “banned” (via tax) in US
- 1942: Removed from USP
- 1970: Schedule 1 classification
  - “high risk for abuse, no accepted medical use”

(NIH-NCI; Backes 2014)
**Current Legal Status of Cannabis in the US**

![Map showing legal status of cannabis in the US](https://commons.wikimedia.org/wiki/File:Medical_cannabis_%2B_CBD_United_States_map_2.svg)

- No doctor's recommendation required
- Doctor's recommendation required
- Limited THC content
- Prohibited

---

**Endocannabinoid System**

- Receptors: CB1 (nervous system) & CB2 (immune cells)
- Endocannabinoids
- Enzymes

![Diagram of the endocannabinoid system](NAPL_PDO, Anandamide, 2-AG, DAGL, DAG, TRPV1, FAAH, MAGL, 2-AG, GPR185, Arachidonate, Ethanolamine, Anandamide, 2-AG, MAGL, 2-AG)

*Schicho, R. & Stan: M. (2013) Patients with IBD find symptom relief in the Cannabis field*  
*doi:10.1038/nrgastro.2013.245*  

*Battista 2012, Vemuri & Makriyannis 2015*
What's so special about Cannabis?

- **Phytocannabinoids:**
  - "...any plant-derived natural product capable of either directly interacting with cannabinoid receptors or sharing chemical similarity with cannabinoids, or both."
  - 110+ in cannabis

- **Properties:**
  - Analgesic, Anti-inflammatory
  - Anti-anxiety
  - Anti-seizure, Neuroprotective
  - Anti-nausea
  - Anti-oxidant
  - Anti-tumor

(Pacher et al. 2006; Gertsch et al. 2010; Russo 2011; Ahmed et al. 2015)
### The “Most Studied” Cannabinoids

<table>
<thead>
<tr>
<th>Cannabinoid:</th>
<th>Receptor Activity:</th>
<th>Major Effects:</th>
<th>Associated Rx drug:</th>
</tr>
</thead>
<tbody>
<tr>
<td>THC:</td>
<td>CB1: nervous system (strong)</td>
<td>Psychoactive, Anti-nausea, Anti-spasmodic, Anti-inflammatory, Pain relief</td>
<td>Marinol (dronabinol), Cesamet (nabilone), Sativex (nabiximols), Levonantradol (research only)</td>
</tr>
<tr>
<td></td>
<td>CB2: immune cells (weak)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBD:</td>
<td>CB1: nervous system (weak)</td>
<td>Anti-seizure, Anti-anxiety, Anti-nausea, Neuroprotective, Pain relief</td>
<td>Sativex (nabiximols), Epidiolex (cannabidiol)</td>
</tr>
<tr>
<td></td>
<td>CB2: immune cells (weak)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Russo 2011)

### Terpenoids found in Cannabis

- Essential oil components
- Characteristic aroma
- Pharma effects

- Limonene
- Myrcene
- Pinene
- Linalool
- Caryophyllene(s)
- Nerolidol
- Phytol

(Russo 2011)
Some Terpenoid Activities

**Terpenoid:**  
- Limonene  
- Myrcene  
- Pinene  
- Linalool  
- Caryophyllenes  
- Nerodilol

**Noted Effects:**  
- anti-anxiety, anti-depressant  
- anti-inflammatory, sedative  
- anti-inflammatory, bronchodilatory  
- anti-anxiety, anti-convulsant  
- anti-inflammatory, anti-fungal  
- sedative, anti-protozoal

The "Entourage Effect"
Noted “entourage” effects

- When THC:CBD @ ~ 1:1
  - ↓ anxiety, memory issues
  - May ↑ pain control

- Terpenoids
  - Caryophyllene: ↓ pain, inflammation
  - Linalool, limonene: ↓ anxiety
  - Myrcene: sedating, ↓ pain
  - Pinene: ↓ memory issues

(Russo & Guy 2006; Morgan et al. 2010; Russo 2011)

Indica? Sativa? Strains?

- “New speak” = Chemovars
  - Type I: THC predominant
  - Type II: THC & CBD
  - Type III: CBD predominant

- Additional distinctions: terpenoid profile

(Lewis et al. 2018)
Terpenoid Analysis

Why should RDNs discuss MC use?

- **Patient Use:**
  - US NCI CA center (Pergam 2017):
    - Past year: 24%
    - Past month: 21%
  - 4 Canadian CA centers (Martell 2018):
    - Any lifetime use: 43%
    - Past 6 months: 18%
    - Recent users: pain (46%), nausea (34%), other CA symptoms (41%)

- **Patient Interest** (Pergram 2017):
  - In learning about it: 6 on 1-10 scale
  - Learn from CA providers: 74%
Your patient asks you:

- “What about medical marijuana (cannabis)?”
- Consider:

  Who else (on your team) is educating about cannabis use?

  Where else will patients get information?

  How accurate will it be?

Discussing Cannabis: Becoming “Adept”
Reviewing the Evidence

► Available studies will include:
  ► Synthetic THC (dronabinol, nabilone, levonantrabol)
  ► Extracted THC +/- CBD
  ► Less often: “whole cannabis”

Chemo-Induced Nausea & Vomiting

<table>
<thead>
<tr>
<th>Cannabinoid</th>
<th>Control</th>
<th>Results</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dronabinol &amp; Levonantradol Nabilone</td>
<td>Anti-nausea meds &amp; Placebo</td>
<td>▶ More effective ▶ Preferred</td>
<td>Tramer et al. 2001</td>
</tr>
<tr>
<td>Dronabinol &amp; Nabilone</td>
<td>Anti-nausea meds</td>
<td>Dronabinol: decreased nausea, was preferred NS NS</td>
<td>Rocha et al. 2008</td>
</tr>
<tr>
<td>Nabilone</td>
<td>Anti-nausea meds</td>
<td>80%: ↓ nausea 78%: people: preferred</td>
<td>Ware et al. 2008</td>
</tr>
<tr>
<td>Dronabinol &amp; Ondansetron &amp; Placebo</td>
<td>Ondansetron &amp; Placebo</td>
<td>Dronabinol: 71% Ondansetron: 64% Placebo: 15%</td>
<td>Parker et al. 2011</td>
</tr>
</tbody>
</table>
## Appetite & Taste/Smell

<table>
<thead>
<tr>
<th>Cannabinoid</th>
<th>Control</th>
<th>Results</th>
<th>Reference</th>
</tr>
</thead>
</table>
| Dronabinol vs. Megestrol Acetate | n/a         | **Appetite:** Megestrol: 75% ↑  
Dronabinol: 49% ↑  
**Note:** Advanced cancer patients | Jatoi et al. 2002 |
| THC + CBD vs. THC            | Placebo     | **Appetite:** No difference  
*Note:* very low dose (2.5 mg) | Strasser et al. 2006 |
| THC                          | Placebo     | Improved chemosensory response:  
36% THC vs. 15% placebo  
“Food tastes better”:  
55% THC vs. 10% placebo  
Pre-meal appetite score:  
THC > placebo | Brisbois et al. 2011  
N=11 |

## Pain & Neuropathy

<table>
<thead>
<tr>
<th>Cannabinoid</th>
<th>Pain</th>
<th>Results</th>
<th>Notes</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed</td>
<td>CA, other</td>
<td>Cannabis &gt; Effective than placebo</td>
<td>Significant Adverse effects</td>
<td>Martin-Sanchez et al. 2009</td>
</tr>
<tr>
<td>Mixed</td>
<td>Neuro, other</td>
<td>15/18 trials: sig, modest effect</td>
<td>No severe AEs, no dropouts; placebo or active control</td>
<td>Lynch &amp; Campbell 2011</td>
</tr>
<tr>
<td>Mixed</td>
<td>CA, other</td>
<td>27/38 RCTs: sig relief</td>
<td>Placebo or active control</td>
<td>Aggarwal 2013</td>
</tr>
<tr>
<td>Cannabis</td>
<td>Neuro</td>
<td>6 RCTs: All = sig relief</td>
<td>3 studies: clinically meaningful relief</td>
<td>Deshpande 2015</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>45, 53, 61% C vs. 18, 24, 26% p</td>
<td></td>
</tr>
</tbody>
</table>
### Cannabis: smoked, 6-8 weeks, self-titrated

Prospective Observational Study: n= 131

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Grade</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nausea</td>
<td>None</td>
<td>+37%</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>-38%</td>
</tr>
<tr>
<td></td>
<td>Severe</td>
<td>+1%</td>
</tr>
<tr>
<td>Vomiting</td>
<td>None</td>
<td>+23%</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>-23%</td>
</tr>
<tr>
<td>Anorexia</td>
<td>None</td>
<td>+36%</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>-38%</td>
</tr>
<tr>
<td></td>
<td>Severe</td>
<td>+2%</td>
</tr>
<tr>
<td>Weight loss</td>
<td>None</td>
<td>+35%</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>-32%</td>
</tr>
<tr>
<td></td>
<td>Severe</td>
<td>+5%</td>
</tr>
<tr>
<td>Pain</td>
<td>None</td>
<td>+23%</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>+3%</td>
</tr>
<tr>
<td></td>
<td>Severe</td>
<td>-26%</td>
</tr>
</tbody>
</table>

P>0.001 for trend
For all symptoms

(Bar-Sela et al. 2013)

### Cannabis a “Cancer Cure”? 

- **Limited Preclinical Evidence:**
  - *In vitro, In vivo (mice)*
  - 1 small human study: GBM

- **Potential?**  *maybe*
- **Certainty?**  *No*

- **Needs more research!!**

(Abrams 2016)
### Cannabis Administration Routes

<table>
<thead>
<tr>
<th>Route</th>
<th>Forms</th>
<th>Onset</th>
<th>Duration</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Smoking, vaping</td>
<td>sec-10 min</td>
<td>2-4 hrs</td>
<td>Vaping = less harmful byproducts than smoking (CO, PAH)</td>
</tr>
<tr>
<td>Oromucosal</td>
<td>Tinctures, lozenges, sprays</td>
<td>15-45 min</td>
<td>6-8 hrs</td>
<td>Rx Nabixomols spray = well researched; Others, limited research</td>
</tr>
<tr>
<td>GI</td>
<td>Edibles, capsules</td>
<td>60-180 min</td>
<td>6-8 hrs</td>
<td>Bioavailability 4-20%</td>
</tr>
<tr>
<td>Dermal</td>
<td>Creams, ointments, Patch</td>
<td>Variable</td>
<td>Variable</td>
<td>Less systemic / primarily localized effects; Limited research</td>
</tr>
<tr>
<td>Rectal</td>
<td>Suppositories</td>
<td>Variable</td>
<td>Variable, Up to 8 hrs</td>
<td>THC-hemisuccinate = best absorbed Lim avail, *not for immune suppressed</td>
</tr>
</tbody>
</table>

Caution... Inhalation

- What is a “dab”?
  - Volatile “concentrate”
  - Extracted via solvents, liquid gas, CO2

- Safety concerns:
  - Residual solvents: >80% samples
  - Pesticides: 33% samples
    - Paclobutrazol: not listed with EPA for use on food crops
  - Increased AEs*

- “Inappropriate as medicine”

*(Raber et al. 2015, *MacCallum & Russo 2018)*

---

Caution... Inhalation

- Potential risk to the severely immunocompromised patient...
  - Bacteria, molds on green bud
  - Few case reports: *aspergillus* via inhaled cannabis
    *can be fatal

- Testing?

- Sterilization?

*(Ruchlemer 2015)*
Caution... Edibles

- Labeling inaccuracies...

- Content analysis:
  - 17% accurately labeled
  - 23% under-labeled (had >THC content!)
  - 60% over-labeled

- Contributes to:
  - Overdosing
  - Difficulty titrating dose

(Vandrey et al. 2015)

---

Contraindications

- Allergy
- Pregnancy & breastfeeding
- CVD, Respiratory
- Hepatic, Renal
- Mental health hx
  - schizophrenia, bipolar d/o, depression

(Kahan 2014, Sachs 2015, Health Canada)
Use with Caution

- Hx CVD, Angina
- HTN
- Asthma, COPD (inhaled)

(Kahan 2014, Sachs 2015, Health Canada)

Adverse Effects

Most Common:
- Drowsiness/fatigue
- Dizziness
- Anxiety
- Nausea
- Cognitive effects (confusion, disorientation, hallucination, impaired memory)
- Cough/phlegm/bronchitis (with smoking)

Common:
- Euphoria (adverse?)
- Blurred vision
- Headache

Rare:
- Hypotension
- Psychosis/paranoia
- Rapid heart rate
- Hyperemesis
- Diarrhea
- Loss of coordination

(MacCallum & Russo 2018)
Cannabis-Drug Interactions

Drug effects increased by cannabis:

- THC:
  - Alcohol
  - Benzodiazepines (Ativan, Valium, Xanax, Restoril, etc.)
  - Opiates: codeine, fentanyl, morphine

- CBD (high dose):
  - Clobazapam - will need dose reduction

(MacCallum & Russo 2018)

Dosing information...

- “Start low, go slow, stay low”
  - Limits AEs, aids tolerance

- Commonly used: high CBD/low THC

- Titrate based on side effects tolerance

- Chronic issues: oral product = “mainstay” of tx

- Acute/breakthrough: vaporization useful

- Average use: 1-3 g herb per day*  (12.5 - 38.5 mg/day)

(MacCallum & Russo 2018, Ware et al. 2015*)
“Don’t Drive!!!”

What are “the rules”? 
### Medical Cannabis Laws: Why & Who

<table>
<thead>
<tr>
<th>Rule</th>
<th>Oregon</th>
<th>Washington</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualifying Conditions:</td>
<td>Include: CA, cachexia, severe pain, severe nausea</td>
<td>Include: CA, intractable pain, diseases resulting in: nausea, vomiting, wasting, appetite loss</td>
</tr>
<tr>
<td>Authorization by:</td>
<td>MD, DO</td>
<td>MD, DO, ARNP, ND, PA, DOA</td>
</tr>
<tr>
<td>Patient may designate provider: (DP)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Age restrictions:</td>
<td>If &lt;18: parent/guardian must consent, be DP</td>
<td>If &lt;18: must have parent/guardian as DP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If 18-21: may enter medically endorsed store only</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If &lt;21: only DP can join co-op garden</td>
</tr>
</tbody>
</table>

(OR Health Authority Medical Marijuan Program; WA Dept of Health Medical Marijuana)

### Medical Cannabis Laws: What & How much

<table>
<thead>
<tr>
<th>Rule</th>
<th>Oregon</th>
<th>Washington</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possession/grow limits:</td>
<td>For patient + caregiver*</td>
<td>In database:</td>
</tr>
<tr>
<td></td>
<td>Mature plants: 6</td>
<td>Plants: 6</td>
</tr>
<tr>
<td></td>
<td>Immature plants: 12</td>
<td>Usable: 8 oz</td>
</tr>
<tr>
<td></td>
<td>*see OHA website</td>
<td>If auth:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plants: 15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Usable: 16 oz</td>
</tr>
<tr>
<td>Purchase limits:</td>
<td>Usable: 24 oz</td>
<td>In database:</td>
</tr>
<tr>
<td></td>
<td>Solid product: 16 oz</td>
<td>Plants: 3 oz</td>
</tr>
<tr>
<td></td>
<td>Liquid product: 72 oz</td>
<td>Usable: 48 oz</td>
</tr>
<tr>
<td></td>
<td>Concentrate: 16 oz</td>
<td>Liquid: 216 oz</td>
</tr>
<tr>
<td></td>
<td>Extract: 5 g</td>
<td>Concentrate: 21 g</td>
</tr>
<tr>
<td></td>
<td>Immature plants: 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seeds: 50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*same as non-patients</td>
<td></td>
</tr>
</tbody>
</table>

(OR Health Authority Medical Marijuana Program; WA Dept of Health Medical Marijuana)
### Medical Cannabis Laws: Where

<table>
<thead>
<tr>
<th>Rule</th>
<th>Oregon</th>
<th>Washington</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical product purchasing:</td>
<td>Medical Dispensary</td>
<td>Medically endorsed retail store</td>
</tr>
<tr>
<td>Documentation:</td>
<td>Valid OMMP card, photo ID</td>
<td>WA Recognition card</td>
</tr>
<tr>
<td>Available product:</td>
<td>n/a</td>
<td>-High-THC -Compliant (meet mandatory testing requirements)</td>
</tr>
</tbody>
</table>

(OR Health Authority Medical Marijuan Program; WA Dept of Health Medical Marijuana)

### Medical Cannabis Laws: Product Testing

<table>
<thead>
<tr>
<th>Oregon</th>
<th>Washington</th>
</tr>
</thead>
<tbody>
<tr>
<td>All: Potency (THC/CBD)</td>
<td>All: Potency (THC/CBD)</td>
</tr>
<tr>
<td>Usable (bud): Microbial (random)</td>
<td>Usable (bud): Foreign Matter</td>
</tr>
<tr>
<td>Moisture content</td>
<td>Heavy Metals</td>
</tr>
<tr>
<td>Pesticide</td>
<td>Microbial/Mycotoxin</td>
</tr>
<tr>
<td>Extract or concentrate: Microbial (random)</td>
<td>Moisture content</td>
</tr>
<tr>
<td>Pesticides</td>
<td>Pesticides</td>
</tr>
<tr>
<td>Solvents</td>
<td></td>
</tr>
<tr>
<td>Product (ingestible, topical, etc.): Micro (random)</td>
<td>Extract or concentrate: Heavy Metals</td>
</tr>
<tr>
<td></td>
<td>Microbial/Mycotoxin (cooking oil, food grade solvent or no solvent)</td>
</tr>
<tr>
<td></td>
<td>Pesticides</td>
</tr>
<tr>
<td></td>
<td>Solvents</td>
</tr>
</tbody>
</table>

(OR Health Authority Medical Marijuan Program; WA Dept of Health Medical Marijuana)
**Bioethics: A Roadmap for the Discussion**

---

**Ethics & Bioethics briefly defined**

- **Ethics:**
  
  “is a philosophical discipline pertaining to notions of good and bad, right and wrong - our moral life in community.”

- **Bioethics:**

  “…the application of ethics to the field of medicine and healthcare.”

(Center for Practical Bioethics)
Principles of Bioethics

- **Non-maleficence:**
  to do no harm, *refrain from harm*

- **Beneficence:**
  to provide benefit, *act to prevent harm*

(Beauchamp & Childress, 2009)

---

Principles of Bioethics

- **Autonomy:**
  the (patient’s) right to choose, *with understanding, without controlling influence*

- **Justice:**
  fairness, equality, *distribution of resources*

(Beauchamp & Childress, 2009)
**The “Four Boxes” and Ethical Principles**

- Per Jonsen et al.: a “practical approach” to illustrate how ethical topics relate to case circumstances:

<table>
<thead>
<tr>
<th>Medical Indications:</th>
<th>Patient Preferences:</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Beneficence &amp; Non-maleficence</em></td>
<td><em>Respect for Autonomy</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quality of Life:</th>
<th>Contextual Features:</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Beneficence &amp; Non-maleficence</em></td>
<td><em>Social, Economic, Legal, Administrative</em></td>
</tr>
<tr>
<td><em>Respect for Autonomy</em></td>
<td><em>Justice/Fairness</em></td>
</tr>
</tbody>
</table>

(Jonsen et al., 2015)

---

**Putting it all together...**

![Puzzle pieces](image)
The Case of “Linda”:

- 67 year old female with lung cancer, metastatic to brain
- Hx of Diabetes, poor control
- S/P lung, brain radiation
- d/t esophagitis, used tube feeds during radiation
- Afterwards, feeding tube removed
- Using a walker since brain radiation
- Goal: continue chemotherapy “as long as possible”
- Interested in MC edibles; is cannabis naïve

Medical Indications:

- Indications for MC use?
  - Other modalities tried?
    - Failed?
  - Efficacy for intended use?
    - If “for cure”... Evidence?
- Are issues acute? Chronic?
- Contraindications?

Our Patient:

- Severe nausea not managed
- No appetite, poor intake
- 7% weight loss in 1 month
- Continued WT loss = treatment break?

Concerns: cannabis naïve, high sugar edibles vs. DM, gait instability

Education: THC vs CBD, tincture vs. vaporized product, “cautionary” dosing
**Patient Preferences:**

- Stated preference?
  - Whose idea?
- Capable, competent to make decision?
- Informed consent?
  - Informed about form?
- Willing, able to cooperate with other tx?
- “Right to choose” respected (as possible) ethically, legally?

**Our Patient:**

- Wanted to eat orally (no tube)
- Wants to try cannabis
- Competent, cooperative
- Had limited info:
  - Not informed on forms, cannabis naïve

**Education:** edible vs. inhaled - onset, duration of effect, auth process

---

**Quality of Life:**

- Expected QoL with, without MC?
- Expected burden: physical, mental, social, financial?
- Provider bias re: patient’s QoL?
- Comfort/palliative care plans?

**Our Patient:**

- “Poor nutrition QoL”: liked to cook, eat - but not able
- MC: potential to help...
- Burden: physical - poor coordination; mental status?
- Not ready for hospice

**Concerns:** fell, fractured arm after MC use began...! *Chicken or the egg?*

**Education:** Safety!!!
Contextual Features:

- Family concerns?
- Financial considerations?
- Influence of provider?
- Impact on clinical trial?
- Safety issues?
- Legality...
  - Qualifying condition

Our Patient:

- Caregiver, but often alone
- $$ a non-issue
- MD: not opposed
- Legality: condition qualifies
- Dispensary available nearby

Concerns: safety when alone
Education: safety when alone, don’t drive!

The Major tasks:

- Evaluate: intent, knowledge
- Determine: efficacy, appropriateness
- Consider: contraindications, contextual concerns
- Inform: educate, educate, educate!
Sample PES Statements:

► Food and nutrition related knowledge deficit related to limited/no prior education re: bioactive substance use (cannabis) as evidenced by patient’s questions re: same.

► Excessive bioactive substance use related to knowledge deficit as evidenced by patient experiencing significant side effects while using cannabis for symptom management.

“Please make a note of it...”

or, “How do I chart that”?

► Discuss with manager, risk management
  ► Indicate intent = patient safety

► Example:
  ► “In the interest of patient safety, advised patient of risks, benefits of MC use including but not limited to:
    MC may help reduce nausea, improve appetite, alleviate pain; however, may cause altered mental status, short term memory deficits, elevated glucose (if using high sugar edible products), poor coordination & increased risk of falling.”
  ► “Also discussed differences in time of onset and duration of effect and side effects for edible vs. vaporized or sublingual product.”
In Summary:

- RDNs: role & responsibility
  - Patients want to hear from providers - **including you!**
- Evidence exists: symptom management, not cure
- Education is critical: “informed decision making”
- Bioethics principles = guidance
- Cannabis education: valuable tool!

Resources:

- International Association for Cannabis as Medicine
  - cannabis-med.org
- Americans for Safe Access
  - Safeaccessnow.org
- Health Canada: Medical Use of Marijuana
- “Cannabis Pharmacy” by Michael Backes or “Chronic Relief” by Nishi Whitely
- “Clinical Ethics: A Practical Approach to Ethical Decisions in Medicine 8th Ed.” by Jonsen & Siegler
- PubMed: especially Ethan Russo, MD