Quitting Smoking After Cancer Diagnosis: The Fourth Pillar of Cancer Treatment

Understanding smoking cessation's vital role in cancer care

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Disclosures

- **The presenters have no financial conflicts of interest related to this presentation.**
- **All information is for educational purposes only.**
- **Some content is based on current guidelines and research; always consult clinical resources for patient-specific decisions.**
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Defining Learning Objectives

Understanding key points:

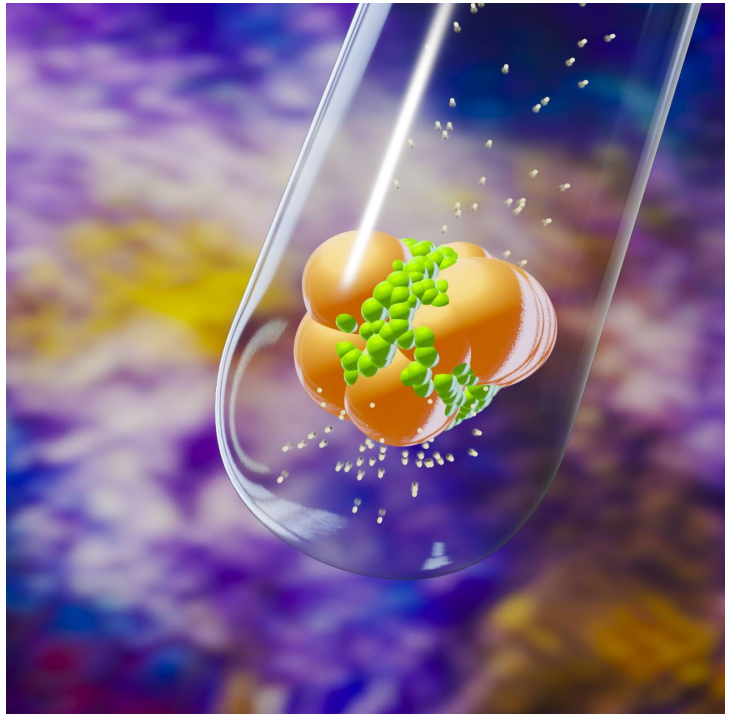
- **identify the smoking /cancer stigma and encourage the patient to have power and control during their cancer journey**
- **Assess the patient-patient centered journey. Slow and steady wins the race**

Presentation Agenda

- Understanding the Relationship Between Smoking and Cancer
- The Four Pillars of Cancer Treatment
- Benefits of Quitting Smoking After a Cancer Diagnosis
- Challenges and Barriers to Smoking Cessation in Cancer Patients
- Effective Strategies and Support for Smoking Cessation

Understanding the Relationship Between Smoking and Cancer

How Smoking Contributes to Cancer Development



Carcinogenic Compounds: Tobacco smoke contains over 5,000 chemicals, many of which are carcinogenic. Nicotine itself promotes tumor growth by affecting cell proliferation, DNA mutation, and oxidative stress.

Nitrosamines Formation: During inhalation, about 10% of nicotine is converted into nitrosamines—potent carcinogens that damage DNA and promote cancerous changes

Nicotine Receptors Activation: Nicotine binds to acetylcholine receptors, triggering pathways that enhance tumor survival, growth, and invasion.

Chronic Inflammation: Smoking induces chronic inflammation and impairs immune responses, creating a microenvironment conducive to cancer development

Mutational Burden: Smokers tend to have a higher tumor mutational burden, which is linked to the development of more aggressive cancer types

Long-Term Risk: Even after quitting, former smokers retain a higher risk of lung cancer compared to never-smokers, although the risk decreases over time with sustained abstinence.

(Minervini et al., 2025)

Impact of Continued Smoking After Cancer Diagnosis

Reduced Treatment Efficacy Smoking interferes with chemotherapy and radiotherapy by increasing chemoresistance and reducing oxygenation in tissues, which diminishes the effectiveness of radiation therapy.

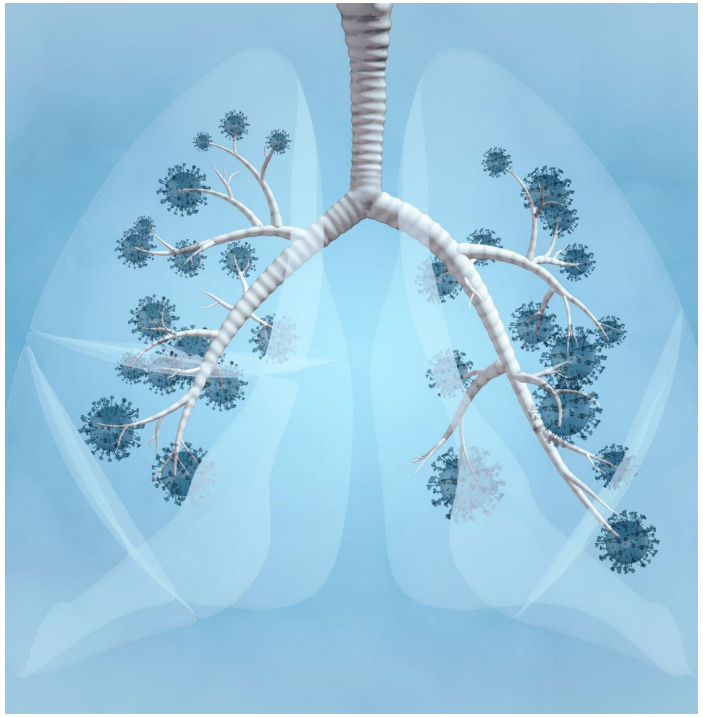
Higher Risk of Recurrence and Mortality Patients who continue smoking face increased tumor recurrence and significantly lower overall survival rates compared to those who quit.

Increased Surgical Complications Smoking elevates the risk of perioperative complications such as infections, respiratory failure, and poor wound healing, especially in lung cancer surgeries.

Lower Quality of Life (QoL) Continued tobacco use is associated with worse physical symptoms, higher psychological distress, and diminished QoL throughout treatment and recovery.

Greater Symptom Burden Smokers experience more severe side effects during treatment, which can lead to dose reductions, delays, or early cessation of therapy.

Impaired Immune Response Smoking alters immune pathways and may reduce the effectiveness of immunotherapy, despite some smokers showing better initial responses due to higher tumor mutational burden.



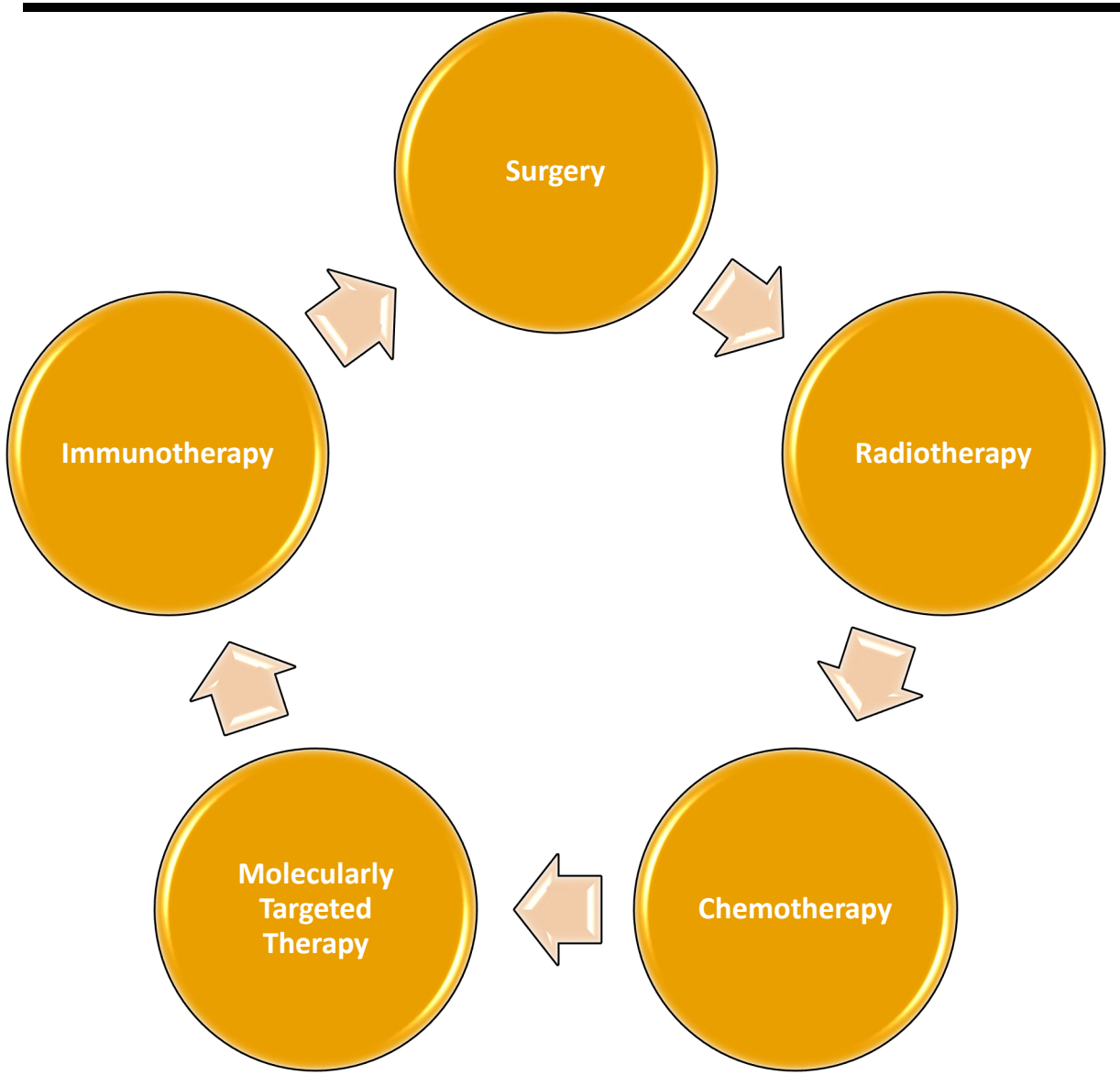
(Minervini et al., 2025)

Prevalence of Smoking Among Cancer Patients

- **High Smoking Rates at Diagnosis**: A significant proportion of lung cancer patients are active smokers at the time of diagnosis. For example, one large study cited in the article found that nearly **65% of patients with stage I lung cancer** were still smoking when diagnosed.
- **Low Preoperative Cessation Rates**: Despite the known risks, only about **11% of these patients successfully quit smoking** before undergoing surgery.
- **Persistent Use Despite Awareness**: Many patients express a desire to quit after diagnosis, but long-term abstinence remains difficult. Factors like nicotine dependence, low self-efficacy, and socioeconomic challenges contribute to continued smoking.
- **Relapse is Common**: Even among those who quit, relapse rates are high—**60% of patients who had quit relapsed within two months** after surgery in one study.

(Minervini et al., 2025)

The five current pillars of cancer treatment



(American Association for Cancer Research, 2025).

A new paradigm: Four Pillars of Cancer Treatment

Modified pillars of treatment emphasizing importance of smoking cessation:

- Surgery
- Radiotherapy
- Systemic Cancer therapy
- Smoking cessation

Introduction to Behavioral Interventions as the Fourth Pillar

Focus on Habit Modification

- Identifying high-risk situations
- Cognitive behavioral therapy
- Motivational interviewing
- Tailored messages and self-help materials

Supporting Medical Treatments

- Pharmacotherapy
  - Nicotine Replacement
  - Norepinephrine Reuptake Inhibitor (NDRI)
  - Partial nicotine receptor agonist

Addressing Root Causes

- Behavioral Triggers
- Motivation and Readiness
- Social and phycological factors

(US Preventive Services Task Force, 2021).

Significance of Integrating Smoking Cessation Into Treatment Plans

- Improves survival outcomes for cancer patients
- Enhances treatment efficacy and reduces complications
- Lowers risk of recurrence and secondary cancers
- Boosts quality of life and long-term health
- Represents a “teachable moment” for behavior change
- Often overlooked in oncology settings
- Requires systemic support and referral pathways

(Cedzyńska & Przepiórka, 2024)

Benefits of Quitting Smoking After a Cancer Diagnosis

Improves survival outcomes

Enhances treatment effectiveness

Reduces recurrence and secondary cancers. (Cinciripini et al., 2024)

Boosts quality of life

Supports long-term health

Time-efficient and cost-effective intervention

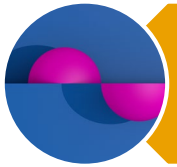
Unless otherwise cited:(Cedzyńska & Przepiórka, 2024)

Key Survival Statistics

Data adapted from multiple cohort studies cited in the *Cancer Trends Progress Report* and related literature

Quitting within 6 months of diagnosis → **25% lower risk of death**

Quitting within 9 months → **21% lower risk of death**



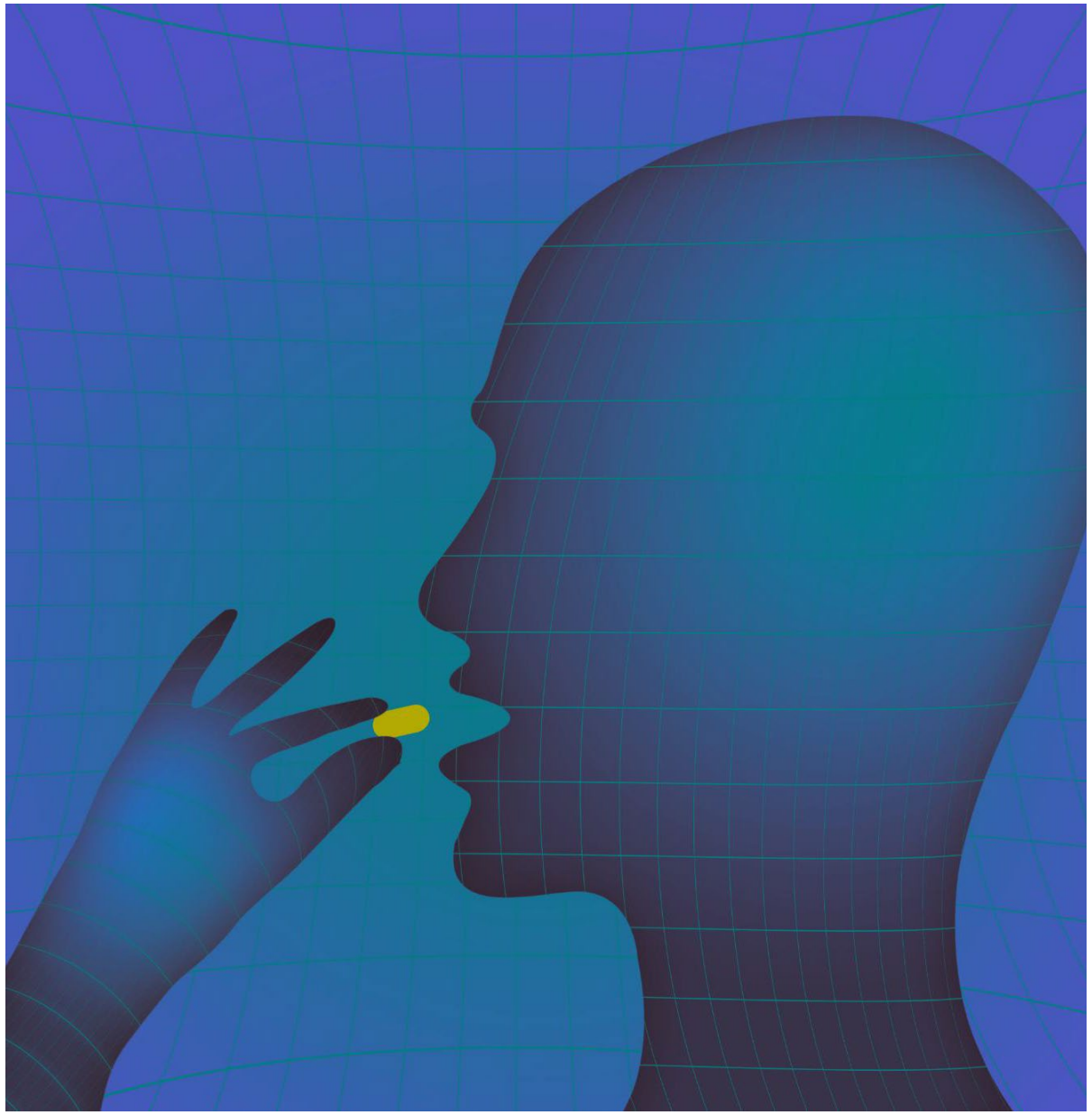
Continued smoking nearly **doubles all-cause mortality risk**

Even in advanced-stage cancer, quitting improves survival

Strong predictor of treatment response and long-term outcomes

(National Cancer Institute, 2025).

Challenges and Barriers to Smoking Cessation in Cancer Patients



Physical and Psychological Dependence

Physical Dependence

Nicotine causes intense physical cravings and withdrawal symptoms during cessation attempts.

Psychological Dependence

Psychological dependence results in anxiety and difficulty coping without nicotine.

Emotional Impact of Cancer Diagnosis on Quitting Efforts

Emotional Burden of Diagnosis

A cancer diagnosis creates significant emotional stress that affects patients' mental well-being during treatment.

Smoking as Coping Mechanism

Some patients increase smoking to cope with stress, making quitting during treatment more difficult.

Impact on Quitting Motivation

Emotional challenges reduce motivation and ability to quit smoking during cancer treatment.

Stigma and Lack of Awareness Among Patients and Providers

Stigma Impact on Patients

Stigma around smoking discourages patients from seeking help for cessation.

Provider Awareness Gap

Limited awareness among providers reduces support for smoking cessation interventions.

Meetings Our Patients Where They Are At

What is Smoking Cessation?

- **The CDC defines smoking cessation as the process of permanently discontinuing the use of tobacco products.**
- **A cancer patient might define smoking cessation as going cold turkey, giving up cigarettes, another thing that will be taken from them, something else that we are making them do.**

(U.S. Centers For Disease Control and Prevention, September17,2024)

Our Role in the Patients Smoking Cessation Journey

- **Tobacco Treatment Specialist Certification**
  - **Intergrating the role of Nurse and CTTS**
  - **Patient tailored pharmacotherapy plan**
  - **Evidence - based interventions**
  - **Develop and deliver patient centerd tobacco treatment plans that include behavioral counseling**
  - **Face to face meetings and telephone calls**

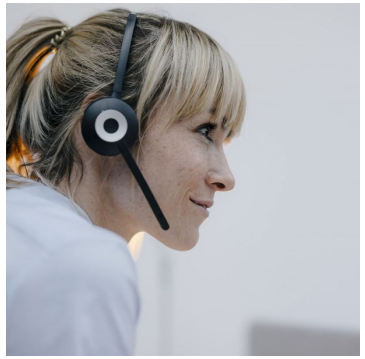
PATIENT ASSESSMENT

- During every visit, ask all patients about their tobacco use. Identify all patients using tobacco.
- Ask directly if they want to quit.
- Where they are emotionally and mentally in their cancer journey?
- Discuss barriers that may hinder their ability to quit.
- Discuss a treatment plan, discuss a quit date that the patient feels obtainable.
- Discuss stratigies for managing cravings during high-risk situations.
- Behavioral counseling - Helps the pateint recoginze triggers that might induce cravings. Triggers such as stress and aggrivation, acivities such as driving a car, drinking a cup of coffee or work breaks.
- Offer in person follow up during schedule appointments or phone calls.
- Initial contact should one week after beginning NRT.
- Offer bi-weekly or monthly call
- s to assess medication compliance. Encourage patient to call you if needs arise between follow up's.
- Encourage support groups!

Resources and Programs for Long-Term Success

Support Groups

Support groups provide emotional encouragement and shared experiences to help maintain abstinence from smoking.



Quitlines

Quitlines offer accessible phone-based counseling and guidance to assist individuals in quitting smoking.

Structured Cessation Programs

Structured cessation programs provide organized plans and tools to address relapse risks effectively.

Effective Strategies and Support for Smoking Cessation

Pharmacological Interventions and Behavioral Therapies

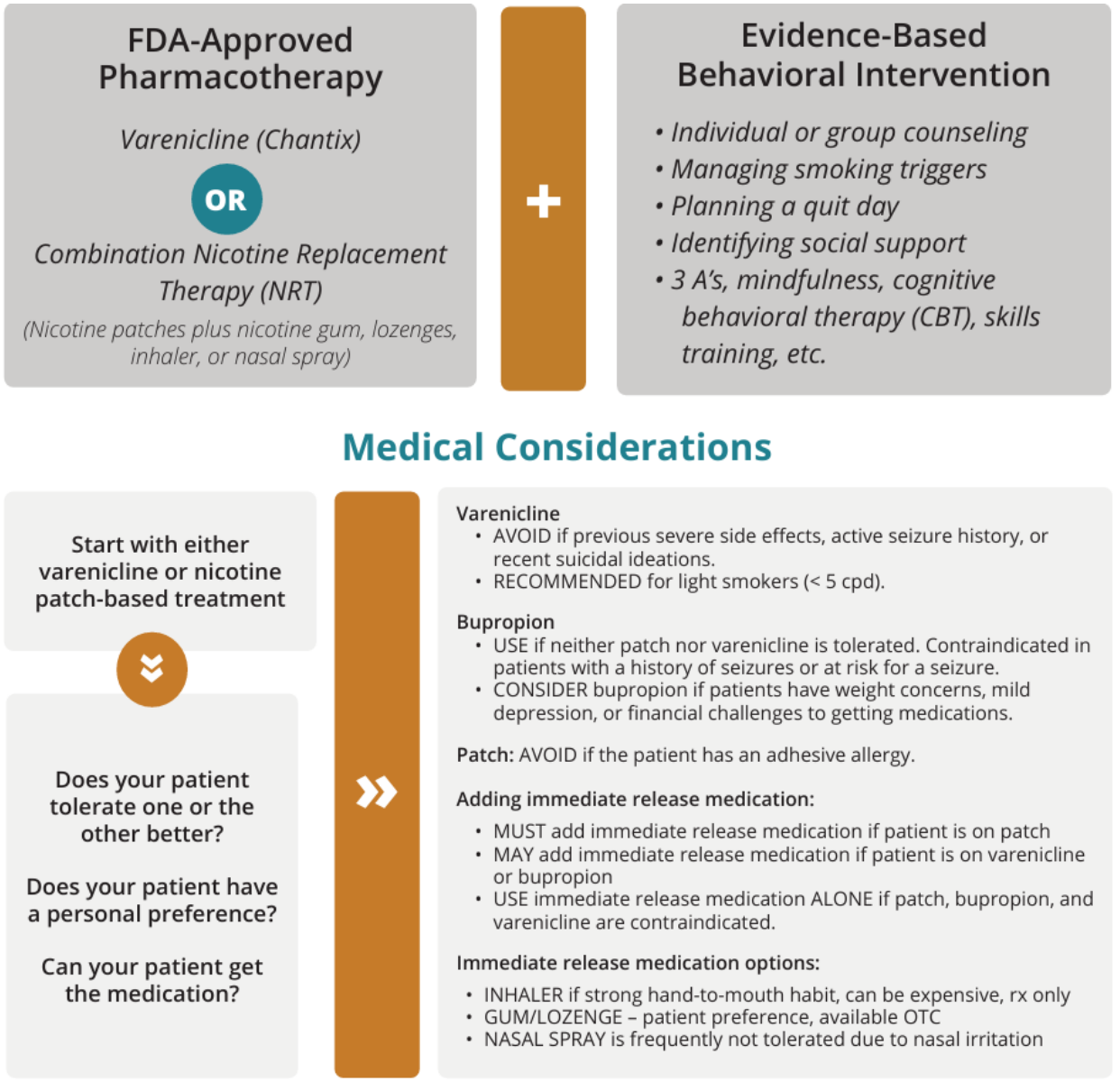
Medications for Cessation

Nicotine replacement, bupropion, and varenicline help reduce withdrawal symptoms and cravings effectively.

Behavioral Therapies

Counseling and behavioral therapies support patients to change habits and increase cessation success rates.

NRT and FDA-Approved Pharmacotherapy Bupropion and Varenicline



(Duke-UNC, 2022)

My patients have preferred and succeeded with combination NRT (# of total pts/ # that have quit smoking)

Encourage to begin using NRT 1 week before beginning quit attempt. Try not to put yourself down for smoking. In fact, it's OK to let yourself enjoy this practice – it will help you realize what you are giving up.

Prepare them for possible lapse. Encourage them to avoid triggers if possible.

Suggest removing 1 cigarette from current PPD every 1-2 weeks.

Patient confirms the 4 cigarettes that would be the hardest to give up (save those for last to remove)

Bi-weekly telephone follow ups (in-person follow up if infusion appt)

If failed quit attempt, encourage them to start over. Encourage! Encourage! Encourage!

(Duke-UNC, 2022)

Length of Treatment

12 weeks vs. 16 weeks: Using medications for 4 weeks pre-quit can increase success of cessation. Continue medications at least 12 weeks post quit date.

Extended treatment: Continue to 6 months if chance of relapse at 12 weeks post-quit.

Medication Dosing

Varenicline (standard dose):
- 1 mg once daily for 7 days with breakfast.
- Increase to 1 mg twice daily with breakfast and dinner after first week for 11 weeks.

Varenicline (low dose):
- 0.5 mg twice daily if patient unable to tolerate due to nausea.
- 1 mg once daily if patient unable to tolerate due to insomnia or nightmares.

Bupropion SR:
- 150 mg once daily for 3 days.
- Increase to 150 mg twice daily after 3 days for 12 weeks.

Nicotine gum and lozenges:
- 4 mg if patient smokes within first 30 minutes of waking
- Otherwise 2 mg

Nicotine patch (16-week regimen):

5-10 cpd: 14 mg patch x 12 wks >> 7 mg patch x 4 wks

11-20 cpd: 21 mg patch x 12 wks >> 14 mg patch x 2 wks >> 7 mg patch x 2 wks

21-30 cpd: 21 mg patch + 14 mg patch x 12 wks >> 21 mg patch x 2 wks >> 7 mg patch x 2 wks

40+ cpd: 21 mg patch + 21 mg patch x 12 wks >> 21 mg patch x 2 wks >> 7 mg patch x 2 wks

EMR Documentation

- CoC Commission on Cancer
  - Standard 5.9: Implementation January 1, 2026
  - Must impliment a process for newly diagnosed cancer patient to be screened for current smoking. Patients who report current smoking must receive or be referred for smoking cessation treatment. A current smoker is someone who has smoked in the last 30 days. (*American College of Surgeons, 2025)*

- Implement an EMR flowsheet
  - Includes all assessment questions, patient measures, Fagerstrom Scale, Quick link resources that attach to your visit (ACS: Empowered to Quit- State Quit Line, etc.)
  - Prescribed NRT or Pharmacotherapy Education sheets
  - Easily accesable documentation of referred patient, prescribed treatment, CA diagnosis, and date of contact for follow ups. (Excel spreadsheet)

Role of Healthcare Providers in Supporting Cessation

Active Patient Engagement

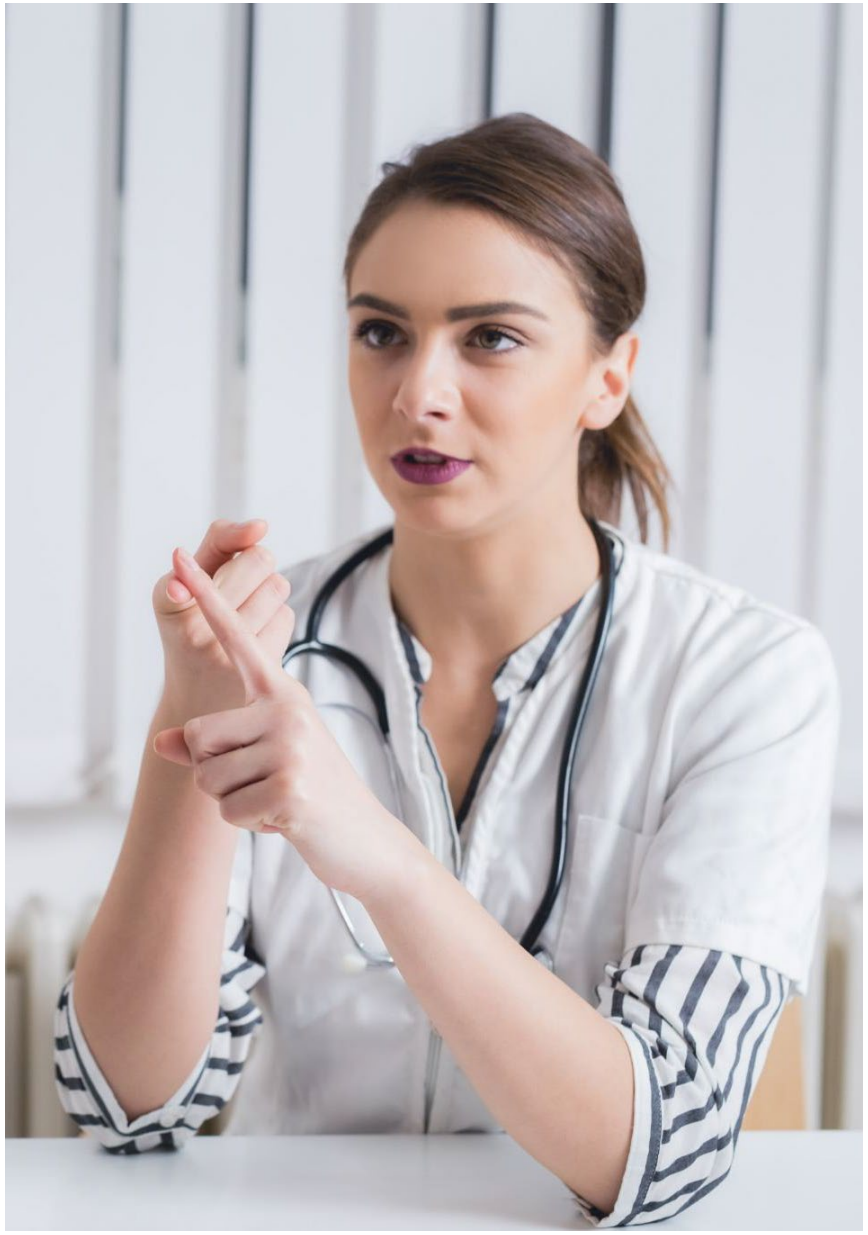
Healthcare providers should initiate open discussions about cessation with patients to encourage quitting efforts.

Tailored Support

Providing individualized cessation support based on patient needs improves chances of successful quitting.

Integration into Cancer Care

Incorporating smoking cessation strategies into cancer treatment plans enhances patient health outcomes.



Conclusion

Importance of Quitting Smoking

Quitting smoking after cancer diagnosis significantly improves treatment success and patient survival rates.

Smoking Cessation as a Pillar

Smoking cessation is a vital fourth pillar complementing medical therapies in comprehensive cancer care.

Overcoming Barriers with Support

Effective support helps overcome barriers, maximizing patient outcomes and improving quality of life.

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