

YOUR TREATMENT TOOLKIT

Lung Radiotherapy
Supportive Care Guide

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Evidence-based protocols from ESTRO, NCCN, MSK, PACIFIC trial (durvalumab), and clinical practice guidelines

Welcome to Week 1

You are about to start a challenging but survivable journey. Lung radiotherapy is typically **6–7 weeks (30–33 fractions)** for definitive treatment, or 5 weeks for adjuvant therapy. Many patients also receive **concurrent chemotherapy** (cisplatin/etoposide or carboplatin/paclitaxel) and/or consolidation immunotherapy (durvalumab). The side effects are **cumulative** — they start slowly and build over weeks, often peaking *after* treatment ends before improving.

This guide contains evidence-based protocols to protect your lungs, manage side effects, and keep you as healthy as possible during and after treatment. **Read it. Follow it. Ask questions.**

The Treatment Timeline

Phase	Weeks	What to Expect
The Setup	1–2	Minimal symptoms. Start preventive routines NOW. Breathing may feel slightly restricted.
The Ramp Up	3–4	Cough begins. Swallowing may feel tender. Fatigue increases.
The Peak	5–7	Esophagitis is strongest. Cough worsens. Fatigue is profound.
The Recovery	2–4 post-RT	Side effects often WORST here, then slowly improve over weeks–months.

The Golden Rules

1. Stop Smoking NOW — Immediately

Smoking during lung RT dramatically reduces your cure rate by 30–50% and worsens every side effect. If you are still smoking: **tell us today**. We have cessation resources (nicotine replacement, Chantix, Wellbutrin, counseling). It is never too late to quit. Every cigarette NOT smoked helps.

2. Watch for Pneumonitis — The Big One

Pneumonitis (lung inflammation) occurs in 15–20% with chemoRT alone, and 22–46% with added immunotherapy. Report **immediately** if you develop new/worsening shortness of breath, new cough, low-grade fever, or fatigue out of proportion. Early detection is critical.

3. Stay Ahead of Esophagitis

Radiation passes through your esophagus on the way to your lungs. Swallowing pain is expected. Start a soft diet early, take pain meds before meals, and use topical anesthetics. Unlike head & neck RT, permanent swallowing damage is uncommon.

4. Keep Moving — Even 10 Minutes Helps

Walking daily (even 10 minutes) preserves lung function, reduces fatigue, and improves outcomes. Pacing is key: alternate activity with rest. Do not push through exhaustion.

Section 1 — Skin Care

Chest and back skin will turn pink to red during treatment. This is temporary but requires careful daily care.

Daily Skin Maintenance

- **Wash:** Lukewarm water with mild, fragrance-free soap (Dove Sensitive, Cetaphil). Use hands only — no washcloths. Pat dry.
- **Moisturize:** Apply liberally 2–3 times daily. Recommended: Aquaphor, Eucerin, CeraVe, or Calendula cream.
- **Clothing:** Soft, loose cotton shirts. Avoid tight bras or clothing that rubs.
- **Shaving:** Use an electric razor only. Avoid manual razors.
- **Avoid:** Hot water, perfume, tape, and vigorous scrubbing.

When Skin Breaks Down

If skin becomes raw, blistered, or weepy (usually weeks 4–6): **Tell your nurse immediately.** We may prescribe silver sulfadiazine cream, hydrogel dressings, or silicone patches.

Long-Term Sun Protection

Your treated chest/back skin will remain **permanently sun-sensitive.** Use SPF 45+ sunscreen on the treated area for life, or cover with clothing.

Section 2 — Esophagitis (Swallowing Pain)

Key fact: Esophagitis is the most common ACUTE side effect of chest RT. It typically starts weeks 2–3, peaks weeks 4–6, and resolves 2–4 weeks post-RT. It is TEMPORARY.

Timeline & Symptoms

- **Weeks 2–3:** Mild throat/chest discomfort with swallowing.
- **Weeks 4–6:** Sharp pain, burning sensation, difficulty swallowing solids.
- **Post-RT:** Gradual improvement over 2–4 weeks.

Dietary Modifications

1. **Soft, moist, bland foods:** Mashed potatoes, scrambled eggs, yogurt, smoothies, scrambled beans, mac & cheese, oatmeal, cream soups, soft pasta.

2. **Avoid irritants:** Dry/crunchy (chips, toast), spicy, acidic (tomato, citrus, vinegar), very hot, and alcohol.
3. **Cold foods feel better:** Smoothies, ice cream, yogurt, milkshakes often soothe better than hot food.
4. **Small, frequent meals:** 6 small meals are easier than 3 large ones.

Pain Management

The Pain Ladder:

- **Step 1 (Mild):** Tylenol 500–1000 mg before meals.
- **Step 2 (Moderate):** Viscous lidocaine 2% swish (5–10 mL) 15 min before meals, plus Mylanta (50:50 mix: “Poor Man’s Magic Mouthwash”). Gabapentin 300–900 mg at bedtime for burning pain.
- **Step 3 (Severe):** Prescription opioid pain meds (liquid available). Call us if uncontrolled.

***KEY PRINCIPLE:** Take pain meds on a SCHEDULE 15–30 minutes before meals, not just when pain spikes. Chasing pain is always harder than preventing it.*

Acid Reflux Management

- Sit upright for 30 minutes after eating.
- No eating within 3 hours of bedtime.
- Avoid trigger foods (spicy, fatty, acidic).
- Proton pump inhibitor (omeprazole) if prescribed.

The “Poor Man’s Magic Mouthwash”

If you cannot get a compounded Magic Mouthwash prescription, this simple two-ingredient version works well:

Recipe (equal parts):

- **Viscous Lidocaine 2%** (prescription) — numbs the throat
- **Mylanta or Maalox** (over-the-counter) — coats and soothes

How to use: Mix equal amounts (e.g., 5 mL each). Swish gently for 1–2 minutes, coating all sore areas. Spit (do not swallow unless directed). Use 15–30 minutes before meals, up to 4–6 times daily.

Section 3 — Cough Management

Radiation irritates lung tissue and airways. A dry cough is common and expected, usually starting weeks 2–3.

Cough Relief Strategies

1. **Humidifier:** Cool-mist humidifier at night helps tremendously. Invest in a good one.

2. **Honey:** 1 teaspoon of raw honey in warm water or herbal tea (avoid if diabetic without provider OK).
3. **OTC medications:** Dextromethorphan (Robitussin DM, Delsym) for cough suppression.
4. **Prescription options:** Benzonatate (Tessalon Perles) numbs the cough reflex. For severe cases, codeine-based cough syrup.
5. **Sleep position:** Elevate head of bed with 1–2 pillows to reduce coughing at night.
6. **Avoid triggers:** Smoke, dust, strong fumes, dry air.

***ALERT:** NEW or WORSENING cough weeks to months AFTER treatment ends = possible PNEUMONITIS. Call us immediately. Do NOT wait.*

Section 4 — Pneumonitis: The Big One to Watch For

Pneumonitis (lung inflammation) is the most important side effect to monitor. Rates vary by treatment: **chemoRT alone: 15–20%; chemoRT + durvalumab: 22–46% in real-world data** (higher than clinical trial rates of ~34%). About 24% of patients on durvalumab discontinue due to pneumonitis.

What It Is & When It Happens

Pneumonitis develops **1–6 months AFTER treatment ends** (not during treatment). It is inflammation and scarring of lung tissue triggered by radiation damage and immune response.

Symptoms (Report Immediately If You Experience These)

- **New or worsening shortness of breath** — most common sign
- **New dry cough** (different from radiation-induced cough)
- **Low-grade fever** (100–101°F)
- **Fatigue out of proportion** to activity
- **Chest discomfort or pain**

Risk Factors (Higher Risk If You Have Any)

- Receiving concurrent or consolidation immunotherapy (durvalumab)
- Larger radiation fields (e.g., both lungs or extensive mediastinal coverage)
- Prior lung disease (emphysema, interstitial lung disease)
- Currently smoking or recent smoker
- Older age (>70 years)

***IF YOU DEVELOP SYMPTOMS: CALL US IMMEDIATELY.** We will order a CT scan and likely start you on steroids (prednisone taper). Early treatment dramatically improves outcomes.*

Radiation vs. Immune Pneumonitis

If you are receiving durvalumab, your team distinguishes two types of pneumonitis:

- **Radiation pneumonitis:** Inflammation confined to the area that received radiation. Visible on CT scan within the radiation field.
- **Immune-checkpoint pneumonitis:** Inflammation in BOTH lungs, often outside the radiation field. A distinct pattern on CT scan.

The distinction matters because management differs. A multidisciplinary CT review (radiation oncologist + pulmonologist) helps determine the subtype and best treatment approach.

Why Follow-Up Appointments Matter

We are watching for pneumonitis **even when you feel fine**. This is why we see you at weeks 2, 4, 6, 8 during treatment and then regularly post-RT. **Do not skip these appointments.**

Section 5 — Shortness of Breath & Breathing

Shortness of breath during lung RT is expected (from radiation effect on lungs, fatigue, chemotherapy toxicity, and overall deconditioning).

Breathing Exercises

1. **Pursed-Lip Breathing:** Inhale slowly through your nose for 2 seconds. Exhale slowly through pursed lips (like blowing a gentle whistle) for 4 seconds. Repeat 5–10 times. Slows breathing, improves oxygen uptake.
2. **Diaphragmatic Breathing:** Place hand on belly. Breathe deeply so your belly expands (not chest). Hold 2–3 seconds. Exhale slowly. Repeat 10 times, 2–3 times daily.

Energy Conservation

- **Pace yourself:** Alternate 10 minutes of activity with 5–10 minutes of rest.
- **Sit for tasks:** Use a chair for cooking, getting dressed, showering.
- **Ask for help:** No shame in help with stairs, heavy lifting, errands.
- **Plan ahead:** Grocery shop on good days. Keep grab-and-go snacks ready.

When to Call

- Sudden, severe shortness of breath
- Chest pain with breathing
- Coughing up blood
- Cannot speak in full sentences
- Confusion or dizziness

Section 6 — Fatigue & Exercise

Fatigue from lung RT can be profound. Radiation, chemotherapy, and breathing difficulty all contribute. Fatigue is **NOT laziness** — it is a real physiologic effect.

What Helps (Evidence-Based)

1. **Walking is the best medicine.** Even 10 minutes daily helps preserve lung function and reduces fatigue. Start slowly, build as tolerated.
2. **Pacing:** Alternate activity/rest. Plan your day. Do light tasks on bad days.
3. **Sleep:** Aim for 8+ hours nightly. Elevate head if you are coughing at night.
4. **Nutrition:** High protein, regular meals. Dehydration worsens fatigue.
5. **Accept help.** Let family/friends bring meals, run errands, drive you to appointments.

Pulmonary Rehabilitation

If fatigue or shortness of breath is severe, ask your team for a referral to pulmonary rehabilitation. Specialized PT/OT can teach breathing techniques, chest wall stretches, and safe exercise progressions.

Section 7 — Nutrition & Weight

Good nutrition fuels healing and helps you tolerate treatment. Weight loss is common; preventing it is critical.

The Rules

1. **Track weight weekly:** Same day, same time, same clothing. Report any loss of 5+ pounds in a week to your care team.
2. **Protein targets:** 1.0–1.2 g/kg body weight daily. (For a 150-lb person: ~68–82 g daily.)
3. **If esophagitis makes eating hard: Boost VHC** (530 cal, 22g protein/8 oz) or **Ensure Max Protein** (30g protein, 150 cal/8 oz).
4. **Hydration:** 8–12 cups daily minimum. If on cisplatin chemotherapy: 3 liters (100 oz) daily on chemo days.

Pro tip: Before treatment starts, spend a weekend batch-cooking and freezing soft, high-protein meals (soups, stews, chili, smoothie packs). You will not feel like cooking during weeks 4–7.

Section 8 — Smoking Cessation (CRITICAL)

Smoking during lung RT is **the single worst thing** you can do.

Why Smoking During RT Is Catastrophic

- **Reduces cure rates by 30–50%** — dramatic impact
- **Worsens esophagitis, cough, pneumonitis** — more complications

- **Increases risk of second cancers**
- **Impairs wound/tissue healing**
- **Worsens fatigue and shortness of breath**

Cessation Resources (We Can Help!)

- **Nicotine replacement:** Patches, gum, lozenges, nasal spray
- **Chantix (varenicline):** Prescription medication that reduces cravings
- **Wellbutrin (bupropion):** Antidepressant that reduces cravings
- **Counseling:** Behavioral support from our social worker
- **Text programs:** Free text-based quit smoking support

***KEY MESSAGE:** It is NEVER too late to quit. Even if you cannot quit completely, every cigarette NOT smoked helps. Quitting even during treatment improves outcomes. Tell us today if you need help. We have resources.*

Section 9 — If You Are Receiving Durvalumab (Immunotherapy)

Durvalumab consolidation immunotherapy after concurrent chemoradiotherapy is now standard for stage III lung cancer. It improves survival but carries distinct risks.

Increased Pneumonitis Risk

Durvalumab can cause pneumonitis **independently** of radiation. Combined risk is **higher than radiation alone**. Be extra vigilant: report any breathing changes immediately.

Other Immune-Related Side Effects

- **Skin rash:** New rash on body (not just treated area)
- **Diarrhea:** Loose stools, increased frequency
- **Thyroid changes:** Fatigue, weight gain/loss, temperature intolerance
- **Joint/muscle pain:** New onset arthralgia or myalgia
- **Hepatitis:** Jaundice, dark urine, light stools (rare)

***IMPORTANT:** Report ANY new symptom to your oncology team. Immune-related adverse events can affect any organ and may develop weeks to months after starting durvalumab.*

If You Have an EGFR Mutation (Targeted Therapy Instead)

Some patients with EGFR-mutant non-small cell lung cancer may receive **osimertinib (Tagrisso)** after chemoRT instead of durvalumab, based on the LAURA trial. This targeted therapy has different side effects from immunotherapy. Your oncologist will discuss which option is right for your specific cancer.

Section 10 — Emotional Support & Caregivers

Lung cancer carries a unique burden. Many patients feel guilt (smoking history or perceived risk factors). **Cancer is NOT your fault.** You are not radioactive. You deserve compassion — from your team and from yourself.

Mental Health Support

- Talk to our social worker or chaplain. They are here for this.
- Ask about support groups (LUNGeivity Foundation, American Lung Association).
- If anxiety or depression interferes with daily life, we can prescribe medication.
- Your family/partner can be in the room during treatment. You are not radioactive.

For Caregivers

- **Batch-cook and freeze meals** before treatment starts.
- **Drive them to appointments** if possible (fatigue + pain meds = unsafe driving).
- **Remind them to do breathing exercises and mouth rinses** — compliance drops when they feel terrible.
- **Take care of yourself too.** Caregiver burnout is real. Ask about respite care.

Section 11 — Red Flags: When to Call Us

Call us immediately if you experience any of the following:

Symptom	Why It Matters
Fever over 100.4°F	May indicate infection
New/worsening shortness of breath	Possible pneumonitis — URGENT
Coughing up blood (>1 tsp)	Needs immediate evaluation
New or worsening cough (post-treatment)	Possible pneumonitis
Unable to keep liquids down 24+ hours	Severe dehydration
Chest pain	Multiple causes — needs evaluation
Cannot speak in full sentences	Respiratory emergency
Sudden leg swelling + shortness of breath	Possible blood clot (PE)
Uncontrolled pain despite meds	Stronger options available
New rash or severe diarrhea (if on durvalumab)	Immune-related side effect

Section 12 — Long-Term Follow-Up

Treatment ending is not the end of your care. These are lifelong considerations.

Pneumonitis Monitoring (Months 1–6 Post-RT)

We monitor closely during the high-risk period. Chest X-rays or CT scans may be ordered. Pulmonary function tests help detect early changes.

Cardiac Monitoring

Radiation to the chest can affect your heart (pericarditis, coronary artery disease). We will monitor your heart periodically per guidelines.

Smoking Cessation (Lifelong)

Permanent smoking cessation is non-negotiable for survival. We continue to offer support and counseling forever.

CT Surveillance

You will have follow-up CT scans per your oncology schedule to monitor for recurrence or new lung nodules. Attend all scheduled scans.

Esophageal Stricture (Rare)

If esophagitis was severe, rarely the esophagus can scar and narrow (stricture). If you develop progressive difficulty swallowing months/years later, let us know. Dilation is available if needed.

Second Cancer Screening

You are at higher risk for second cancers. Avoid tobacco and alcohol permanently. Report any new lumps, non-healing sores, or unexplained symptoms.

Recommended Products

Below are commonly recommended products. These are suggestions, not endorsements — equivalent brands work fine.

Category	Product	Est. Cost
Skin Care	Aquaphor Healing Ointment	~\$12
Skin Care	Eucerin Original	~\$10
Esophagitis	Mylanta (for mouthwash mix)	~\$10
Esophagitis	Ensure Max Protein (30g/8oz)	~\$28/12pk
Esophagitis	Boost VHC (530 cal/8oz)	~\$55/27pk
Cough	Delsym (Dextromethorphan)	~\$12
Cough	Honey (raw)	~\$8
Cough	Cool-mist humidifier	~\$30
Breathing	Wedge pillow (head elevation)	~\$30
Breathing	Pulse oximeter	~\$20
Smoking	Nicotine patches (14-pack)	~\$30
Smoking	Nicotine gum or lozenges	~\$25

Prescriptions (Lidocaine, pain meds, Gabapentin, Chantix, anti-nausea meds) will be sent to your pharmacy by your care team.

Important Contact Information

Main Line Health — Radiation Oncology

100 East Lancaster Ave · Rosengarten Bldg, Basement · Wynnewood, PA 19096

1078 West Baltimore Pike · Health Center 1, Ground Floor · Media, PA 19063

Phone

Appointment Line: 1.866.CALL.MLH (1.866.225.5654)

If you are experiencing a life-threatening emergency, call 911.

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My Treatment Journal

A place to notice patterns, remember questions, and track what helps.

You do not need to fill this out perfectly. Even a few notes can help you see patterns, remember what worked, and tell your care team what is actually happening at home.

This Week

Week of / goals / anything I especially want help with

Daily Check-In

Day / Date	Energy (0-10)	Pain (0-10)	Eating / Drinking	Sleep	Main note
Mon					
Tue					
Wed					
Thu					
Fri					
Sat					
Sun					

Symptoms I Want to Watch

<input type="checkbox"/> Cough or breathing	<input type="checkbox"/> Swallowing / esophagus	<input type="checkbox"/> Chest discomfort
<input type="checkbox"/> Skin reaction	<input type="checkbox"/> Fatigue	<input type="checkbox"/> Fever or pneumonitis concerns
<input type="checkbox"/> Other: _____		

What I Tried / What Helped

Use this page to test small changes and keep track of what helps, what does not, and what you want to ask about next.

Problem or symptom	What I tried	Did it help?	Next step / question

Examples: taking pain medicine before meals, changing skin care timing, drinking earlier in the day, using a humidifier, adjusting fiber, walking after treatment, or asking for a refill.

Questions for My Care Team

Bring this page to visits. Small questions are worth writing down, especially when treatment days start to run together.

Symptoms or side effects I want to mention

Medication, refill, or product questions

Eating, drinking, bowel, bladder, skin, sleep, or activity questions

Logistics: appointments, transportation, work, family, forms

One thing I keep forgetting to ask
