

FRANKLY SPEAKING ABOUT CANCER

Treatment for Lung Cancer

Companion to
FRANKLY SPEAKING
ABOUT CANCER:
LUNG CANCER



Learning about treatment for lung cancer is an important step in gaining control over your life with cancer. The more you know, the better you will be able to work with your health care team to find a treatment plan that is right for you. Your treatment options will depend on the type and stage of your lung cancer, as well as other factors such as the genetic makeup of your tumor.

This booklet covers current lung cancer treatment options including chemotherapy,

immunotherapy, and targeted therapy. Additional information can be found in our *Frankly Speaking About Cancer: Lung Cancer* book. For information about lung cancer and how to cope, visit www.CancerSupportCommunity.org/Lung.





Chemotherapy for Lung Cancer

Chemotherapy (also called chemo) uses drugs to attack and kill cancer cells. These drugs attack fast-growing cells like cancer. Chemotherapy is used to treat both NSCLC and SCLC.

Most chemotherapy drugs are given by IV (through a vein). Some chemotherapy drugs can be taken orally, as a pill. Because the drugs continue to work for days or weeks after they are taken, a period of rest and recovery follows each dose or cycle.

Chemotherapy is given as a single drug or as a combination of drugs. Chemo also may be given at the same time as immunotherapy, radiation, or targeted therapy. Sometimes chemo and radiation are given on different days.

The following chemotherapy drugs are used most often to treat non-small cell lung cancer (NSCLC) and small cell lung cancer (SCLC) as of November 2020. New treatments become available all the time, so this may not be a complete list. You can download the most up-to-date list of chemo drugs at www.CancerSupportCommunity.org/Lung.

SIDE EFFECTS OF CHEMOTHERAPY

Chemotherapy works by destroying fast-growing cancer cells. It may harm fast-growing normal cells as well. This can cause side effects. Keep in mind that you may not have all or even most of these side effects. Most side effects are only short-term and most can be treated.

- Diarrhea or constipation
- Fatigue
- Flu-like symptoms
- Hair loss

- Loss of appetite or weight
- Mouth sores
- Nausea and vomiting
- Neuropathy (numbness, tingling, or pain in the hands or feet)
- Low blood counts and risk of infection or bleeding
- Nail and skin changes
- Pain
- Taste changes
- Hearing changes

Before you start treatment: Ask about the side effects of any drug you consider and how to manage them. Also ask about whom to contact if you experience serious side effects. There may be medicine that can prevent or ease symptoms. Also, for drugs taken as pills, be sure to ask if they should be taken with food or if any foods should be avoided.

During/after treatment: Report any side effects or changes to your health care team. Some side effects can get worse quickly if they are not treated.

For more information about managing side effects, go to Chapter 5 of our *Frankly Speaking About Cancer: Lung Cancer* book.

CHEMOTHERAPY DRUGS APPROVED FOR LUNG CANCER

(as of November 2020)

CHEMOTHERAPY DRUG Generic (and brand) names	NSCLC	SCLC	GIVEN AS
carboplatin (Paraplat® or Paraplatin®)*	X	X	IV
cisplatin (Platinol®-AQ or Platinol®)*	X	X	IV
docetaxel (Taxotere®)	X		IV
etoposide (Toposar® or VePesid®)	X	X	IV or pill
gemcitabine hydrochloride (Gemzar®), given with cisplatin	X		IV
lurbinectedin (Zepzelca™)		X	IV
paclitaxel (Taxol®), given with cisplatin for NSCLC	X	X	IV
paclitaxel albumin - stabilized nanoparticle formulation (Abraxane®) - also referred to as albumin-bound paclitaxel or nab-paclitaxel	X	X	IV
pemetrexed disodium (Alimta®)	X		IV
temozolomide (Temodar®)		X	IV or pill
topotecan hydrochloride (Hycamtin®)		X	IV or pill
vinorelbine tartrate (Navelbine®)	X	X	IV

* Platinum chemotherapy for lung cancer includes cisplatin (Platinol®, Platinol®-AQ, CDDP) or carboplatin (Paraplatin®).



Immunotherapy for Lung Cancer

Immunotherapy is a type of cancer treatment that uses the body's natural defenses (the immune system) to identify, attack, and kill cancer cells. Immunotherapy drugs approved to treat lung cancer belong to a class of drugs called checkpoint inhibitors. They most often target proteins called PD-1 or PD-L1. New research is looking at other kinds of immunotherapy to treat lung cancer. These include vaccines or T-cell therapy. Ask your doctor about clinical trials.

Checkpoint inhibitors are given by IV (through a vein). Treatments usually take place at your doctor's office or an infusion clinic.

The following immunotherapy drugs are used to treat non small cell lung cancer (NSCLC) and small cell lung cancer (SCLC) as of November 2020. New treatments become available all the time, so this may not be a complete list. You can download the most up-to-date list of immunotherapy drugs at www.CancerSupportCommunity.org/Lung.

SIDE EFFECTS OF IMMUNOTHERAPY

Keep in mind that not all people get all side effects, and some people have few side effects. Immunotherapy side effects most often show up weeks or months after you start treatment, but may recur even years later. Most side effects can be managed if treated early.

If you are on immunotherapy, it is very important to let your health care team know right away about any changes in side effects or symptoms.

Common side effects include:

- Diarrhea or Constipation
- Cough

- Decreased appetite
- Fatigue
- Fever
- Hair loss
- Headache
- Infection or swelling around the lungs
- Nausea
- Pain in muscles, bones, joints, or stomach
- Shortness of breath
- Skin rash or itching
- Urinary tract infection

Rare but serious side effects may include:

- Hepatitis (inflammation of the liver)
- Colitis (inflammation of the colon)
- Inflammation in the lungs
- Severe infections
- Severe skin problems
- Problems in the kidneys, hormone glands, or other organs
- Hormone gland problems (especially thyroid, pituitary, adrenal glands, and pancreas)

Before you start treatment: Ask about the side effects of any drug you consider and how to manage them. Also ask about whom to contact if you experience serious side effects. There may be medicine that can prevent or ease symptoms.

During/after treatment: Report any side effects or changes to your health care team. Some side effects can get worse quickly if they are not treated.

For more information about managing side effects, go to Chapter 5 of our *Frankly Speaking About Cancer: Lung Cancer* book.

IMMUNOTHERAPY DRUGS APPROVED FOR LUNG CANCER

(as of November 2020)

DRUG Generic (and brand) names	WHEN IT IS USED
atezolizumab (Tecentriq®)	<ul style="list-style-type: none"> • For advanced non-squamous non-small cell lung cancer (NSCLC) that is EGFR- or ALK- • For advanced NSCLC that is PD-L1+ and EGFR- and ALK- • For NSCLC for which platinum chemotherapy* did not work or stopped working <ul style="list-style-type: none"> – And, if EGFR+ or ALK+, the targeted therapy did not work or stopped working • For advanced small cell lung cancer (SCLC) • Often given at the same time as the chemotherapy drugs carboplatin, paclitaxel, or etoposide. May be given with bevacizumab (Avastin®), a drug that targets blood vessel growth, as well.
durvalumab (Imfinzi®)	<ul style="list-style-type: none"> • For Stage III NSCLC that cannot be removed by surgery, and that has not progressed after treatment with chemoradiation that included a platinum chemotherapy* drug. • For advanced small cell lung cancer (ES-SCLC) with etoposide and a platinum chemotherapy* drug.
nivolumab (Opdivo®)	<ul style="list-style-type: none"> • For advanced NSCLC that is PD-L1+ and EGFR- and ALK- <ul style="list-style-type: none"> – Given with ipilimumab (Yervoy®) • For advanced NSCLC for which platinum chemotherapy* did not work or stopped working <ul style="list-style-type: none"> – And, if EGFR+ or ALK+, targeted therapy did not work or stopped working • For advanced SCLC after at least two different types of chemotherapy (including one platinum chemotherapy*) that did not work or are no longer working
pembrolizumab (Keytruda®)	<ul style="list-style-type: none"> • When given as initial therapy, often given at the same time as chemotherapy • For advanced non-squamous NSCLC that is EGFR- or ALK- • For advanced squamous NSCLC • For Stage III NSCLC that cannot be treated with surgery or chemoradiation • For advanced NSCLC that is PD-L1+ and EGFR- or ALK- • For advanced NSCLC <ul style="list-style-type: none"> – If PD-L1+, platinum chemotherapy* either did not work or stopped working, and – If EGFR+ or ALK+, targeted therapy did not work or stopped working • For advanced SCLC for which platinum chemotherapy* either did not work or stopped working, and at least one other prior line of therapy • For any type of advanced lung cancer that tests positive for MSI-High, TMB-High, or dMMR when prior treatment did not work or stopped working

* Platinum chemotherapy for lung cancer includes cisplatin (Platinol®, Platinol®-AQ, CDDP) or carboplatin (Paraplatin®).



Targeted Therapy for Lung Cancer

Targeted therapy is a newer form of cancer treatment. It may be used to treat advanced NSCLC. Targeted therapies block the action of certain genes, proteins, or molecules that cause cancer to grow and spread. Biomarkers are features of your tumor that can be measured to help guide your therapy. Your doctor will need to test your tumor for biomarkers to find out if targeted therapy is right for you. This is called biomarker testing. Biomarker testing is often also called molecular testing, genetic testing, or genomic testing.

Most lung cancer targeted therapies are taken by mouth as a pill. Treatments usually take place at home once or twice a day. A few targeted drugs are given by IV (through a vein), sometimes in combination with chemotherapy. If this is the case, you may have to go into the hospital every 3 to 4 weeks for treatment.

These are the targeted therapy drugs that are available as of November 2020. New treatments become available all the time, so this may not be a complete list. You can download the most up-to-date list of targeted therapy drugs at www.CancerSupportCommunity.org/Lung.

APPROVED TARGETED THERAPIES BY BIOMARKER

New treatments become available all the time so this may not be a complete list. **These are the latest targeted therapies that are available as of November 2020.** For the latest information go to www.CancerSupportCommunity.org/Lung.

BIOMARKER Drug generic (and brand) names	% OF NSCLC WITH THIS BIOMARKER	DRUG NOTES (+ means a positive test)
ALK <ul style="list-style-type: none">• alectinib (Alecensa®)• brigatinib (Alunbrig®)• ceritinib (Zykadia®)• crizotinib (Xalkori®)• lorlatinib (Lorbrena®)	5%	<ul style="list-style-type: none">• For ALK+ metastatic NSCLC• Alecensa and Xalkori are given as a twice-daily pill• Alunbrig, Lorbrena, and Zykadia are given as a once-daily pill
BRAF <ul style="list-style-type: none">• dabrafenib (Tafinlar®)• trametinib (Mekinist®)	2-4%	<ul style="list-style-type: none">• For BRAF+ NSCLC• Tafinlar is given as a twice-daily pill• Mekinist is given as a once-daily pill• Given in combination with each other

APPROVED TARGETED THERAPIES BY BIOMARKER (Continued)

(as of November 2020)

<p>EGFR</p> <ul style="list-style-type: none"> • afatinib (Gilotrif[®]) • dacomitinib (Vizimpro[®]) • erlotinib (Tarceva[®]) • gefitinib (Iressa[®]) • necitumumab (Portrazza[®]) • osimertinib (Tagrisso[®]) 	15%	<ul style="list-style-type: none"> • For EGFR+ metastatic NSCLC <ul style="list-style-type: none"> - Depending on the exact EGFR mutation, can be used as 1st treatment: Gilotrif, Iressa, Tagrisso, Tarceva, and Vizimpro - Can be used when other EGFR drugs have stopped working: Tagrisso - All given as a once-daily pill • For advanced squamous cell NSCLC: Portrazza <ul style="list-style-type: none"> - Given by vein in combination with chemotherapy
<p>MET INHIBITOR</p> <ul style="list-style-type: none"> • capmatinib (Tabrecta[™]) 	2-4%	<ul style="list-style-type: none"> • For MET+ metastatic NSCLC • Tabrecta is given as a twice-daily pill
<p>NTRK</p> <ul style="list-style-type: none"> • entrectinib (Rozlytrek[™]) • larotrectinib (Vitrakvi[®]) 	0.2-0.3%	<ul style="list-style-type: none"> • For NTRK+ metastatic solid tumors, including NSCLC • Rozlytrek is given as a once-daily pill • Vitrakvi is given as a twice-daily pill
<p>RET INHIBITOR</p> <ul style="list-style-type: none"> • pralsetinib (Gavreto[™]) • selpercatinib (Retevmo[™]) 	1-2%	<ul style="list-style-type: none"> • For metastatic NSCLC • Gavreto is given as a once-daily pill • Retevmo is given as a twice-daily pill
<p>ROS1</p> <ul style="list-style-type: none"> • crizotinib (Xalkori[®]) • entrectinib (Rozlytrek[™]) 	1-2%	<ul style="list-style-type: none"> • For ROS1+ metastatic NSCLC • Xalkori is given as a twice-daily pill • Rozlytrek is given as a once-daily pill
<p>VEGF</p> <ul style="list-style-type: none"> • bevacizumab (Avastin[®]) <ul style="list-style-type: none"> – and its biosimilars like bevacizumab-awwb (Mvasi[®]) and bevacizumab-bvzr (Zirabev[™]) • ramucirumab (Cyramza[®]) 	No biomarker required for treatment	<ul style="list-style-type: none"> • Avastin given for non-squamous advanced NSCLC • Cyramza given for EGFR+ metastatic NSCLC in combination with Tarceva • Given by IV (in the vein) every 3 weeks, often in combination with chemo

SIDE EFFECTS OF TARGETED THERAPY

Before you start treatment: Ask about the side effects of any drug you consider and how to manage them. Also ask about whom to contact if you experience serious side effects. There may be medicine you can take or use to prevent or ease symptoms.

During/after treatment: Report any side effects or changes to your health care team. Some side effects can get worse quickly if they are not treated.

For more information about managing side effects, go to Chapter 5 of our *Frankly Speaking About Cancer: Lung Cancer* book.

SIDE EFFECTS BY TYPE OF DRUG

Targeted therapies treat the cancer cells with less harm to normal cells. Not all people get all side effects. Be sure to tell your health care team about the side effects you have.

New treatments become available all the time so this may not be a complete list. **These are the latest targeted therapies that are available as of November 2020.** For the latest information go to www.CancerSupportCommunity.org/Lung.

TYPE OF THERAPY

COMMON SIDE EFFECTS

Drug generic
(and brand) names

ALK INHIBITORS

- alectinib (Alecensa®)
- brigatinib (Alunbrig®)
- ceritinib (Zykadia®)
- crizotinib (Xalkori®)
- lorlatinib (Lorbrena®)

- Changes in vision (blurry vision)
- Diarrhea
- Nausea and vomiting
- Constipation
- Fatigue
- Loss of appetite
- Swelling
- Numbness
- Confusion and changes in mood (Lorbrena only)

Rare but serious side effects may include:

- Problems to the heart, liver, kidneys, or lungs
- High cholesterol and triglycerides (Lorbrena only)

BRAF INHIBITORS

- dabrafenib (Tafinlar®)
- trametinib (Mekinist®)

- Fever
- Changes to skin (thickening, rash, warts, dryness)
- Fatigue
- Nausea and vomiting
- Diarrhea
- Sensitivity to the sun

Rare but serious side effects may include:

- Increased blood sugar
- Allergic reaction
- Problems to the heart, lung, kidneys, eyes, or liver

EGFR INHIBITORS

- afatinib (Gilotrif®)
- dacomitinib (Vizimpro®)
- erlotinib (Tarceva®)
- gefitinib (Iressa®)
- necitumumab (Portrazza®)
- osimertinib (Tagrisso®)

- Skin changes (acne-like rash, dry skin, itchiness)
- Diarrhea
- Loss of appetite
- Mouth sores
- Fatigue
- Nail infection

Rare but serious side effects may include:

- Problems to the heart, lungs, liver, or eyes

SIDE EFFECTS BY TYPE OF DRUG (Continued)

(as of November 2020)

MET INHIBITOR

- capmatinib (Tabrecta™)

- Swelling
- Nausea
- Fatigue
- Confusion and changes in mood (Lorbrena only)

Rare but serious side effects may include:

- Problems to the liver and lungs

NTRK INHIBITORS

- entrectinib (Rozlytrek™)
- larotrectinib (Vitrakvi®)

- Fatigue
- Nausea and vomiting
- Constipation or diarrhea
- Dizziness
- Anemia (Vitrakvi only)

Regular blood tests are needed to check liver function.

With Rozlytrek only:

- Swelling
- Change in taste
- Abnormal touch sensation
- Shortness of breath

Rare but serious side effects may include:

- Problems to the liver or nervous system, and for Rozlytrek with the heart, kidneys, and eyes

Let your doctor know if you have dizziness, unclear speech, problems walking, or are feeling tingling, burning or numbness. (Most often occurs in the first 3 months.)

RET INHIBITOR

- pralsetinib (Gavreto™)
- selpercatinib (Retevmo™)

- Diarrhea
- Constipation
- Dry mouth
- Fatigue
- Swelling
- High blood pressure
- Heart rhythm changes

Rare but serious side effects may include:

- Liver, lung, and/or bleeding problems

SIDE EFFECTS BY TYPE OF DRUG (Continued)

(as of November 2020)

ROS1 INHIBITORS

- crizotinib (Xalkori®)
- entrectinib (Rozlytrek™)

- Changes in vision (blurry vision)
- Diarrhea
- Nausea and vomiting
- Constipation
- Fatigue
- Loss of appetite or change in taste
- Swelling

With Rozlytrek only:

- Dizziness
- Abnormal touch sensation
- Shortness of breath

Rare but serious side effects may include:

- Problems to the heart, liver, kidneys, eyes, central nervous system (Rozlytrek only), or lungs (Xalkori only)

VEGF or ANGIOGENESIS INHIBITORS

- bevacizumab (Avastin®) and its biosimilars like bevacizumab-awwb (Mvasi®) and bevacizumab-bvzr (Zirabev™)
- ramucirumab (Cyramza®)

- High blood pressure
- Changes to skin (dryness, rash)
- Diarrhea
- Nosebleeds (Avastin only)
- Loss of appetite
- Low blood counts
- Weakness
- Upper respiratory infection
- Runny nose

Rare but serious side effects may include:

- Bleeding problems
- Stroke
- Heart attack
- Blood clots
- Wounds that may not heal
- Tears in the stomach or bowel wall

FOR MORE INFORMATION ON MANAGING THE SIDE EFFECTS OF LUNG CANCER TREATMENT:

- See Chapter 5 of our *Frankly Speaking About Cancer: Lung Cancer* book, available at www.CancerSupportCommunity.org/Lung
- Visit www.CancerSupportCommunity.org/SideEffects
- Call our Helpline (888-793-9355) to mail order our *Lung Cancer* or *Coping with Side Effects* materials



Cancer Support Community Resources

Cancer Support Helpline® — Have questions, concerns or looking for resources? Call CSC's toll-free Cancer Support Helpline (888-793-9355), available in 200 languages Mon - Fri 9am - 9pm ET.

Open to Options® — Preparing for your next appointment? Our trained specialists can help you create a list of questions to share with your doctor. Make an appointment by calling 888-793-9355 or by contacting your local CSC or Gilda's Club.

Frankly Speaking About Cancer® — Trusted information for cancer patients and their loved ones is available through publications, online, and in-person programs at www.CancerSupportCommunity.org/FranklySpeakingAboutCancer.

Services at Local CSCs and Gilda's Clubs — With the help of 170 locations, CSC and Gilda's Club affiliates provide services free of charge to people touched by cancer. Attend support groups, educational sessions, wellness programs, and more at a location near you. www.CancerSupportCommunity.org/FindLocation

Cancer Experience Registry® — Help others by sharing your cancer patient or cancer caregiver experience via survey at www.CancerExperienceRegistry.org.

MyLifeLine — CSC's private, online community allows patients and caregivers to easily connect with friends and family to receive social, emotional, and practical support throughout the cancer journey and beyond. Sign up at www.MyLifeLine.org.

Grassroots Network — Make sure your voice is heard by federal and state policy makers on issues affecting cancer patients and survivors by joining our Network at www.CancerSupportCommunity.org/become-advocate.

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This book is available to download and print yourself at www.CancerSupportCommunity.org/Lung. For print copies of this booklet or other information about coping with cancer, visit Orders.CancerSupportCommunity.org.

The Cancer Support Community provides this information as a service. This publication is not intended to take the place of medical care or the advice of your doctor. We strongly suggest consulting your doctor or other health care professionals to answer questions and learn more.

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