PROACTIVE SUPPORTIVE CARE GUIDE:

How to manage symptoms from *EGFR*+ mNSCLC and adverse reactions from targeted treatment

EGFR, epidermal growth factor receptor; mNSCLC, metastatic non-small cell lung cancer.

PLANNING AHEAD FOR ADVERSE REACTIONS

EGFR-targeted treatment

EGFR-positive lung cancer represents about 10% to 15% of lung cancer in the U.S. and generally appears in patients with non-small cell lung cancer (NSCLC).[1] While EGFR is a critical oncogenic driver for many NSCLC patients, treatment that targets EGFR may cause unique toxicities that may require management.[2]

Some EGFR-inhibitor–related adverse reactions may be manageable and not life-threatening; however, they can significantly affect patients'[2]:

- **Physical function**
- **Quality of life**

Adverse reactions could lead to[2]:

- **Poor adherence**
- **Discontinuation of a potentially beneficial treatment**

You play a critical role

Some adverse reactions from EGFR treatments can be proactively managed, which may[3–5]:

- Reduce the need to modify the treatment dose
- Improve drug adherence
- Maintain patients' quality of life

Inform your patients of the importance of proactively managing adverse reactions by:

- Explaining treatment efficacy and benefits of adherence[3]
- Discussing what to expect from treatment[3,6]
- Providing prophylactic medicines and palliative care[5,6]
- Reinforcing a multidisciplinary approach to care[3,6]

It's important to discuss with your patients what to expect before and during treatment—and what can be done to help reduce some adverse reactions.[3-5]

Knowing what to expect, and taking proactive steps, can help[3,5]:

- Lower patient anxiety about adverse reactions
- Reduce severity of certain adverse reactions
- Help patients to stay on treatment and receive the potential benefits

Consider a multidisciplinary approach[6-9]

Working together with other healthcare disciplines and encouraging patients to expand their care team can help improve their outcomes.

Multidisciplinary Teams (MDT):

- May include nurses, infusion staff, pharmacists, and dermatologists, and are extremely important to cancer care
- Are shown to enhance clinical processes and patient outcomes, and offer improved patient care management versus care delivered sequentially by individual clinicians
- Have increased survival in patients with various advanced solid malignancies

Request support from an OCE at EGFRNurse.com

If you have any questions about treatment or managing adverse reactions, OCEs are available to help. OCEs are oncology nurses employed by Johnson & Johnson who specialize in product and disease education.

Data rates may apply.

Proactive Supportive Care

EGFR INHIBITOR–RELATED ADVERSE REACTIONS: DERMATOLOGIC TOXICITIES

This is not meant to be a comprehensive list of all treatment-related adverse reactions that can occur. Each patient's experience may vary.

EGFR Inhibitor–Related Adverse Reactions: Dermatologic Toxicities

Reactive management of dermatologic adverse reactions often **occurs too late**.

A survey of oncologists administering EGFR-inhibitor treatment found that rash caused[10]:

76% to interrupt patient therapy, and

32% to discontinue patient therapy.

50%+

of Grade 2 or worse skin toxicity occurring with targeted therapies (such as EGFR inhibitors) can be reduced with proactive supportive care.[4]

Consider referring your patients to a dermatologist or an onco-dermatologist to help manage dermatologic adverse reactions.[3,11]

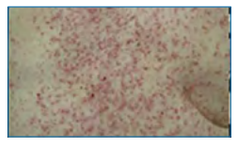
Rash

Occurs in **11% to 89%**

of patients treated with an EGFR-inhibitor treatment.[12-16]

Acneiform rash

is the most common dermatologic adverse reaction with EGFR inhibition and typically develops on the face, scalp, upper chest, and back. ~2% to ~20% of patients experience Grade ≥3 skin toxicity. **Proactive management can help reduce Grade ≥2 skin toxicities by more than 50%.**[17-21]

Grade 1	Grade 2	Grade 3
		
Covering <10% of body surface area (BSA); not associated with itching or pain.	Covering 10% to 30% BSA; may cause pruritus, pain, and adverse psychosocial effects.	Covering >30% BSA; may cause pruritus, pain, and adverse psychosocial effects, secondary infection, limiting self-care.

The above images represent various degrees of acneiform rash that may occur according to CTCAE v4.03. Refer to the latest version of CTCAE for grading.[22]

Proactive care:

Multinational Association of Supportive Care in Cancer (MASCC) guidelines recommend proactive measures (Weeks 1-6), such as[3]:

- Minocycline 100 mg daily **or** doxycycline 100 mg twice daily
- Hydrocortisone 1% cream with moisturizer and sunscreen twice daily

Based on the high frequency of rash in EGFR inhibitor–treated patients and the consistent presentation within the first 2 to 4 weeks of therapy, preventive/prophylactic management is recommended unless there are contraindications based on patient and/or healthcare provider factors.[3]

Symptoms to watch for[23]:

- Eruption, with a combination of inflamed papules and pustules
- Hemorrhagic crust
- Pruritus

What to tell your patients[3]:

You may expect some form of rash. Report symptoms of rash right away. You may be prescribed antibiotics to help prevent or reduce the severity of rash.

CTCAE, Common Terminology Criteria for Adverse Events.

Pruritus

Occurs in **17% to 55%**

of patients treated with an EGFR inhibitor, rarely requiring dose modification or discontinuation.[16,24]

Itching can also occur as a consequence of dry skin, and often accompanies acneiform rash at onset.[3]

Grade 1	Grade 2	Grade 3
		
No scaling.	Faint scaling, faint roughness, and dull appearance.	Small scales in combination with a few larger scales, slight roughness, and whitish appearance.

The above images represent various degrees of pruritus that may occur. Refer to the latest version of CTCAE for grading scale.[25]

Proactive care:

Apply emollients liberally and limit sun exposure to reduce dry skin.[3]

Symptoms to watch for[26]:

- Unpleasant itching sensation

What to tell your patients[27]:

According to Association of Community Cancer Centers (ACCC) guidelines, you can help break the itch-scratch cycle by:

- Keeping fingernails short
- Wearing loose clothing
- Using a humidifier
- Restricting bath and shower time and using lukewarm water
- Avoiding cleansers with a high pH or containing alcohol

Xerosis

Occurs in

11% to 36%

of patients treated with an EGFR-inhibitor treatment.[13,23]

Xerosis usually follows or is accompanied by acneiform eruption and typically presents as dry, scaly, itchy skin on any part of the body. Xerosis generally occurs after the patient has been on EGFR-inhibitor treatment for 30 to 60 days.[3]

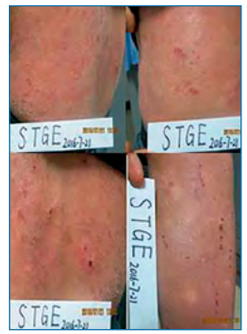
Grade 1

Covering <10% BSA; no associated erythema or pruritus.

Grade 2

Covering 10% to 30% BSA; associated with erythema or pruritus; limiting instrumental ADL.

Grade 3



Covering >30% BSA and associated with pruritus; limiting self-care ADL.

The above images represent various degrees of xerosis that may occur according to CTCAE v4.03. Refer to the latest version of CTCAE for grading scale.[22]

Proactive care:

Avoid extreme temperatures and direct sunlight, practice bathing techniques, and avoid ethyl alcohol-containing or fragrance-containing skin products.

Symptoms to watch for[3]:

- Dry, scaly, itchy skin on any part of the body

What to tell your patients[3]:

- Refrain from using ethyl alcohol–containing lotions or skin products that may dehydrate skin
- Use fragrance-free moisturizing creams
- Use bath oils or mild moisturizing soaps and bathe in lukewarm water

ADL, activities of daily living.

Paronychia

~10% to 35%

of patients experience paronychia during EGFR-inhibitor treatment. Inflammation of the folds of the fingernails and toenails can lead to infection, and the consequent swelling and tenderness often affect patients' daily life.[16,28]

Grade 1

Nail fold edema or erythema; disruption of the cuticle.

Grade 2

Localized intervention indicated; oral intervention indicated; nail fold edema or erythema with pain; associated with discharge or nail plate separation; limiting instrumental ADL.

Grade 3

Surgical intervention or intravenous antibiotics indicated; limiting self-care ADL.

The above images represent various degrees of paronychia that may occur according to CTCAE v4.03. Refer to the latest version of CTCAE for grading.[22]

Proactive care:

MASCC guidelines suggest prevention of superinfection by using antimicrobial soaks and avoiding irritants.[3]

Symptoms to watch for[3,22,29]:

- Inflammation
- Redness
- Swelling
- Tenderness
- Infection

The first digit and first toe are most frequently affected.

What to tell your patients[3,29]:

Focus on prevention, including:

- Wearing comfortable shoes
- Keep your nails trimmed short, but don't cut or trim your cuticles (due to risk of infection)
- Wearing gloves while cleaning
- Using antimicrobial soaks

Early detection and proper management of adverse reactions are important to help reduce morbidity, avoid treatment discontinuation, and improve patient quality of life.

Stomatitis
(oral mucositis)

Occurs at low grade in

17% to 64%

of patients treated with single-agent EGFR-inhibitor treatment.[13,14,16]

The above images represent severe cases of stomatitis that may occur. Refer to the latest version of CTCAE for grading.[3]

CTCAE v5.0 Stomatitis Grading Scale[30]				
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Asymptomatic or mild symptoms; intervention not indicated	Moderate pain or ulcer that does not interfere with oral intake; modified diet indicated	Severe pain; interfering with oral intake	Life-threatening consequences; urgent intervention indicated	Death

Proactive care:

Practice basic oral care, including routine actions performed by the patient or care partner to reduce bacterial load in the oral cavity, prevent infections, and provide comfort. Light therapy (photobiomodulation) and anti-inflammatory agents (eg, benzydamine) may be used.[31]

Symptoms to watch for[32]:

- Pain, burning, and redness in the mouth
- Ulcers, which increase risk for bleeding and infection
- Mouth dryness and odor
- Difficulty talking and tasting food
- Pain and difficulty swallowing, which may limit food and water intake, leading to dehydration and weight loss

What to tell your patients[31]:

- Evaluate oral healthcare before and periodically during treatment
- Brush and floss teeth consistently
- Use mouthwashes to reduce bacterial buildup (bland rinses)
- Apply moisturizing agents to oral mucosal surfaces for hydration and lubrication

Determining the Severity of an Adverse Reaction

Body surface area metric, along with the grading (severity) scale provided by the National Cancer Institute Common Terminology Criteria for Adverse Events (NCI CTCAE), can help determine the severity of an adverse reaction.[30]

Infections and infestations[30]	
Papulopustular rash	**Definition:** A disorder characterized by an eruption consisting of papules (a small, raised pimple) and pustules (a small, pus-filled blister), typically appearing on face, scalp, and upper chest and back. Unlike acne, this rash does not present with whiteheads or blackheads, and can be symptomatic, with itchy or tender lesions.
Grade 1	Papules and/or pustules covering <10% BSA, which may or may not be associated with symptoms of pruritus or tenderness
Grade 2	Papules and/or pustules covering 10% to 30% BSA, which may or may not be associated with symptoms of pruritus or tenderness; associated with psychosocial impact; limiting instrumental ADL; papules and/or pustules covering >30% BSA with or without mild symptoms
Grade 3	Papules and/or pustules covering >30% BSA with moderate or severe symptoms; limiting self-care ADL; associated with local superinfection with oral antibiotics indicated
Grade 4	Life-threatening consequences

Determining the Severity of an Adverse Reaction (cont'd)

Infections and infestations[30]	
Acneiform rash	**Definition:** A disorder characterized by an eruption of papules and pustules, typically appearing on face, scalp, upper chest, and back.
Grade 1	Papules and/or pustules covering <10% BSA, which may or may not be associated with symptoms of pruritus or tenderness
Grade 2	Papules and/or pustules covering 10% to 30% BSA, which may or may not be associated with symptoms of pruritus or tenderness; associated with psychosocial impact; limiting instrumental ADL; papules and/or pustules covering > 30% BSA with or without mild symptoms
Grade 3	Papules and/or pustules covering >30% BSA with moderate or severe symptoms; limiting self-care ADL; associated with local superinfection with oral antibiotics indicated
Grade 4	Life-threatening consequences; papules and/or pustules covering any % BSA, which may or may not be associated with symptoms of pruritus or tenderness and are associated with extensive superinfection with IV antibiotics indicated
Dry skin	**Definition:** A disorder characterized by flaky and dull skin; the pores are generally fine, the texture is papery thin.
Grade 1	Covering <10% BSA and no associated erythema or pruritus
Grade 2	Covering 10% to 30% BSA and associated with erythema or pruritus; limiting instrumental ADL
Grade 3	Covering >30% BSA and associated with pruritus; limiting self-care ADL

Infections and infestations[30]	
Paronychia	**Definition:** A disorder characterized by an infectious process involving the soft tissues around the nail.
Grade 1	Nail fold edema or erythema; disruption of the cuticle
Grade 2	Local intervention indicated; oral intervention indicated (eg, antibiotic, antifungal, antiviral); nail fold edema or erythema with pain; associated with discharge or nail plate separation; limiting instrumental ADL
Grade 3	Operative intervention indicated; IV antibiotics indicated; limiting self-care ADL
Oral mucositis (stomatitis)	**Definition:** A disorder characterized by ulceration or inflammation of the oral mucosa.
Grade 1	Asymptomatic or mild symptoms; intervention not indicated
Grade 2	Moderate pain or ulcer that does not interfere with oral intake; modified diet indicated
Grade 3	Severe pain; interfering with oral intake
Grade 4	Life-threatening consequences; urgent intervention indicated

IV, intravenous.

General Dermatologic Lifestyle Tips for Patients

- Choose loose-fitting and soft clothes[33]
- Wear comfortable, well-fitting shoes and thick socks[33]
- Use laundry detergents made for sensitive skin and without perfumes[33]

- Consider bathing/showering with lukewarm water[3,33]
- Use mild soaps and shampoos[33]
- Use fragrance-free moisturizing creams[33]
- Use alcohol-free products[27]
- Keep your nails trimmed short, but don't cut or trim your cuticles (due to risk of infection)[29]

- Avoid direct sunlight and excessive sun exposure[33]
- Wear protective clothing and use sunscreen[33]
- Use a humidifier if in a dry environment[10]
- Wear gloves during activities that could cause infections, such as cleaning[3]

Proactive Supportive Care

MANAGEMENT OF SELECT DISEASE-RELATED ADVERSE REACTIONS

This is not meant to be a comprehensive list of all disease-related adverse reactions that can occur. Each patient's experience may vary.

Fatigue

Cancer-related fatigue (CRF) is a common symptom in **44%** of patients with cancer.[34]

Fatigue occurred in **>75%** of patients with metastatic disease.[35]

Proactive care:

Physical exercise during treatment has shown to improve CRF.[36]

Symptoms to watch for[36]:

- Feeling tired or weak
- Heaviness in arms or legs
- Feeling exhausted even after sleep
- Difficulty concentrating
- Sadness
- Feeling moody, irritable, or frustrated

What to tell your patients[36]:

Fatigue can be a common side effect of cancer treatment. Signs of fatigue may also include anemia and pain. Consider:

- Making lifestyle changes to help reduce fatigue
- Planning your day so you have time to rest
- Yoga and/or regular exercise

Venous thromboembolism (VTE)

2% to 15%

of patients with cancer experience VTE.[37]

VTE, which includes deep vein thrombosis (DVT) and pulmonary embolism (PE), is a key cause of morbidity among patients with cancer. They predominantly occur in the vessels of the leg, giving rise to DVT, or in the lungs, resulting in a pulmonary embolus.[38,39]

Patients with certain cancers may have a higher risk of a hypercoagulable or prothrombotic state, a medical condition characterized by an increased tendency for the blood to form clots. The risk of VTE in cancer patients is **9 times** higher than in the general population.[37,40]

Proactive care:

NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) recommend anticoagulant options for VTE prophylaxis for ambulatory patients with cancer, including direct oral anticoagulants (DOACs) and low molecular weight heparins (LMWHs).[41]*†

Symptoms to watch for[42]:

- Swelling
- Pain
- Tenderness
- Warmth
- Erythema (skin reddening)

What to tell your patients[39]:

There is a possibility of VTE during treatment, and you should speak up if you notice any symptoms or warning signs. You should also consider proactive activities, such as:

- Physical activity
- Stress management
- Quitting smoking

*Recommendations derived from clinical trials of ambulatory patients with cancer with high thrombosis risk (>18 years, Khorana VTE Risk Score of ≥2, initiating new course of chemotherapy) and are not included in product labeling. Prophylaxis duration should be 6 months or longer if risk persists.

†Always refer to the NCCN Guidelines for the comprehensive and most up-to-date recommendations on cancer-associated VTE when considering prophylaxis.

Neutropenia[43-45]‡

A decrease in the absolute neutrophil count can be an effect of treatment. Neutropenia occurs in

2% to 50%

of patients, and is dependent on various factors.

Febrile neutropenia (FN)

is defined as oral temperatures on consecutive readings of >100.4°F. FN occurs in

13% to 21%

of patients receiving chemotherapy for solid tumors. American Society of Clinical Oncology/Infectious Disease Society of America guidelines recommend the risk of febrile neutropenia should be systematically assessed.

Proactive care:

NCCN Guidelines® recommend that granulocyte colony-stimulating factor (G-CSF) be administered for patients at high risk (>20%) of FN. G-CSF should be considered for patients at intermediate risk (10%-20%) based on patient risk factors. G-CSFs are not routinely recommended for patients with low risk factors (<10%), but is based on clinical judgment for patients with risk factors.[43]

Symptoms to watch for[46]:

Neutropenia often occurs between 7 and 12 days after chemotherapy, and can include:

- Fever of 100.4°F or higher
- Chills or sweating
- Sore throat or sores in the mouth
- Vomiting
- Abdominal pain
- Perirectal pain
- Dysuria
- Diarrhea
- Cough or shortness of breath
- Redness, soreness, or swelling in any area

What to tell your patients[46]:

While direct prevention of neutropenia is difficult, it is important to try to prevent infection, using techniques such as:

- Washing hands frequently
- Avoiding crowded places
- Preparing food carefully
- Getting seasonal flu shots

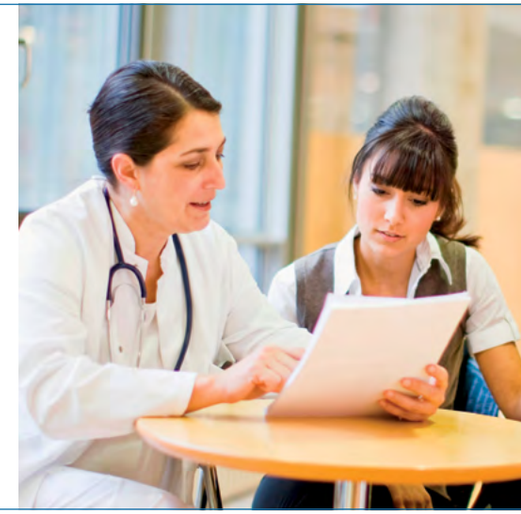
‡Patients may experience other laboratory abnormalities, including other cytopenias.

SUPPORT FOR YOU AND YOUR TEAMS

Support for You and Your Teams

Reach out to an Oncology Clinical Educator (OCE) from Johnson & Johnson at EGFRNurse.com

OCEs are oncology nurses employed by Johnson & Johnson to provide product and disease education information to oncology patient-care team members, patient support groups, and advocacy organizations.



Refer Your Patients for Support

BeLUNG Here™

Data rates may apply.

BeLUNG Here™ is an inclusive space created alongside patients, survivors, care partners, advocates, and leaders to provide educational and emotional support for the lung cancer community. This resource can be especially helpful for newly diagnosed patients. Learn more at **BeLungHere.com** or by scanning the QR code above.

PROACTIVE CARE TIPS FOR PATIENTS

TIPS TO HELP YOUR PATIENTS DURING TREATMENT

Things to do

Lifestyle:

- Plan your day so you have time to rest[36]
- Exercise (with permission from your doctor)[36]
- Get seasonal flu shots[46]
- Use a humidifier, especially if in a dry environment[10]

Clothing:

- Wear loose-fitting, soft, and comfortable clothing[47]
- Wear comfortable, well-fitting shoes and thick socks[3,33]
- Wear gloves while cleaning[3]

Hygiene:

- Wash hands frequently[46]
- Prepare food carefully[46]
- Keep fingernails short[27]
- Limit bath and shower time[27]
- Bathe/shower using lukewarm water, not hot water[3]
- Use sunscreen regularly[47]
- Use moisturizing skin products regularly[47]
- Use skin care products and laundry detergents made for sensitive skin and without perfumes[10,33]
- Practice regular oral hygiene[31]

Things to avoid

- Repeated friction, trauma, or excessive pressure to the skin or nails[3]
- Products that have a high pH or contain alcohol[27]
- Direct sunlight and excessive sun exposure[33]

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