Guidelines for managing dermatologic adverse events (dAEs) with Optune Lua®

While dAEs can be common for patients using Optune Lua, you can help maximize time on treatment by getting ahead of dAEs with the M^3 approach: **mitigate** with preventative care, **monitor** symptoms, and **manage** with proper treatment[1,2]

This brochure does not represent medical advice, but guidance based on clinical trial results and real-world clinical experience in glioblastoma. Novocure® cannot give medical advice.[2,3]

Indication For Use

Optune Lua® is intended as a treatment concurrent with PD-1/PD-L1 inhibitors or docetaxel for adult patients with metastatic non-small cell lung cancer who have progressed on or after a platinum-based regimen.

Selected Safety Information

Contraindications

Do not use Optune Lua in patients with an electrical implant. Use of Optune Lua together with electrical implants has not been tested and may lead to malfunctioning of the implanted device.

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US-OPL-00223v2.0 November 2024

OPTUNE LUA®

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Selected Safety Information

Contraindications (cont'd)

Do not use Optune Lua in patients known to be sensitive to conductive hydrogels. In this case, skin contact with the gel used with Optune Lua may commonly cause increased redness and itching, and rarely may even lead to severe allergic reactions, such as a fall in blood pressure and breathing difficulty.

Warnings and Precautions

Optune Lua can only be prescribed by a healthcare provider that has completed the required certification training provided by Novocure® (the device manufacturer).

Do not prescribe Optune Lua for patients who are pregnant, whom you think might be pregnant, or who are trying to get pregnant, as the safety and effectiveness of Optune Lua in these populations have not been established.

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Dermatologic AEs (dAEs) are to be expected with Optune Lua® but can be managed

- The only device-related AEs occurring in >5% of patients were skin-related[1,4]
- dAEs may occur with Optune Lua because the arrays must be adhered directly to the skin to function properly and transmit electric fields[2,3]

  Some other potential causes include:

  - Sensitivity to ingredients in the conductive hydrogel
  - Pressure and shearing forces
  - Other risk factors inherent to patient (ie, pre-existing conditions, concomitant treatments, scars, or other dermatological skin conditions)

In the LUNAR clinical trial for mNSCLC[1]

- dAEs under the transducer arrays were experienced by 63.1% of patients (n=89/141)
- Majority were mild-to-moderate (grade 1 or 2)
- Only 6 patients (4%) reported a grade 3 skin toxicity that required a break from treatment; in all cases the skin issue resolved
- There were no grade 4 or grade 5 toxicities related to Optune Lua, and no device-related AEs that caused death

Device-related dAEs[4,*]

Preferred term	Optune Lua + PD-1/PD-L1 inhibitor or docetaxel (n=141)	
	All grades n (%)	Grade 3 n (%)
Dermatitis	56 (39.7%)	3 (2.1%)
Pruritus	18 (12.8%)	1 (0.7%)
Rash	12 (8.5%)	0
Skin ulcer	12 (8.5%)	1 (0.7%)
Maculopapular rash	9 (6.4%)	0
Erythema	7 (5%)	0
Skin infection	3 (2.1%)	1 (0.7%)

*≥5% of patients in any group and all grade 3+ adverse events.[4]

AE, adverse event; mNSCLC, metastatic non–small cell lung cancer; PD-1/PD-L1, programmed cell death 1 protein/programmed cell death 1 ligand 1.

Note: dAEs can potentially be prevented, are typically mild to moderate in nature, and are generally managed with topical therapy.[2,5]

Mitigate dAEs to help maximize time on therapy

Based on experience in GBM, identification of patient risk factors, proper and timely array changes, and patient and caregiver education are all important for helping to reduce the risk of developing skin irritation while on Optune Lua®.[3]

Maximizing time on Optune Lua starts with proper skin care[2,3]

Advise patients and caregivers to:

Clean: Always wash their hands prior to each application and removal of transducer arrays

Clear: Keep their torso clear by washing with water, hypoallergenic soap, and a clean, soft cloth between transducer array exchanges

Shave: Hair removal can be a short trim and does not need to be a close shave

Wear: Apply a skin barrier film before array application

Note: Inform your patients to contact you as soon as they experience itching, redness, or inflammation.[2]

Suggested interventions based on "Prevention and Management of Dermatologic Adverse Events Associated With Tumor Treating Fields in Patients With Glioblastoma" from Lacouture, et al.[3]

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Array management

Proper array removal[2]

- Replace at least twice per week (every 4 days at most)
- Be sure patients unplug the cords attaching the array to the connector box and leave the Optune Lua device outside the bathroom, before stepping into a warm shower
- Gently remove the arrays without forcefully rubbing the skin (it should take about a minute for each array)
- To further mitigate the risk of skin irritation, medical adhesive remover, water-based makeup remover, baby oil, or a warm shower may be used to loosen the edges of the arrays and remove residue
- Check for signs of skin damage or excess irritation. Encourage patients to report and keep a photograph diary of any skin problems

Proper array placement[2,3,6]

- Hair should be removed ideally 2 days prior to treatment start (repeated every 7-10 days or as needed)
  - Hair removal can be a short trim instead of a close shave
  - After hair removal wash skin with water or a gentle hypoallergenic soap only
- Regularly moisturize skin with fragrance-free moisturizers
- Apply a skin barrier film and any topicals if needed (ie, corticosteroids or antibiotics)
  - Provides a thin protective layer of film on the skin to protect it from output and adhesives
- Wait 15-20 minutes to ensure skin is completely dry before replacing the array
- Arrays are placed according to the transducer array layout
  - Shift arrays by 2 cm (3/4 inch) at every change (ensuring pairs are moved together), moving arrays back at subsequent changes
- Determine front placement first, in regard to nipple, collarbone, metal, and drains
  - Avoid ceramic disc placement over wounds, scars, surgical screws, or ports
  - Avoid placing edge of array in skin folds, creases, or scar tissue
- Nonstick gauze may be used to protect nipples or open wounds from adhesive and wires
  - Do not place under ceramic discs
- For female patients: when selecting a bra, make sure that the bra underwires do not interfere with the disks

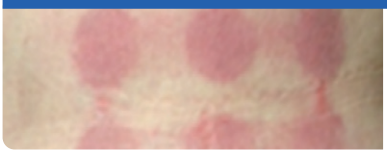
Note: It's important to understand key risk factors—such as pre-existing conditions, surgical scars and hardware, and concomitant treatments like ICIs or targeted therapies—and intervene early to help decrease the risk and severity of dAEs.[3]

dAE, dermatologic adverse event; GBM, glioblastoma; ICI, immune checkpoint inhibitor.

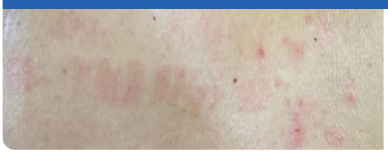
Monitor symptoms and intervene with the necessary action

Use these photos to help identify dermatologic adverse events (dAEs) and initiate appropriate management[2,3,5]

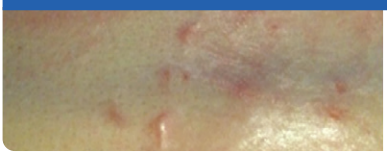
Dermatitis



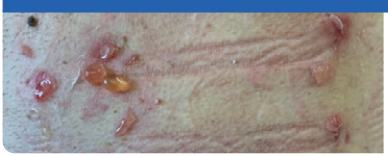
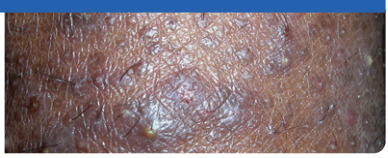

Pruritus



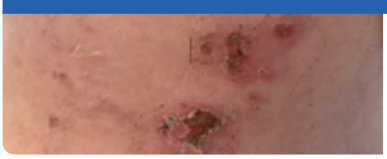
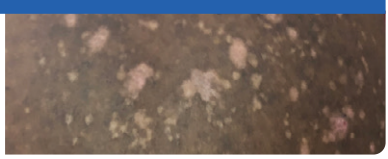

Hyperhidrosis




Infections

Skin ulcer

Note: Pictured are patients who may have high-grade dAEs; early management can help reduce the severity of dAEs.[3,5]

If skin conditions continue, consider referral to a dermatologist

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Monitor symptoms and intervene with the necessary action

Skin ulcer[3]

Symptoms:
- Open skin defects, bleeding or oozing
- Complete loss of epidermis, portions of dermis, fat, or muscle

Potential causes
- Ischemic injury and/or decreased perfusion produced by array pressure
- Trauma from shaving and/or array application or removal
  - May develop from inflammation or maceration due to sweat, rupture of vesicles, bullae from infection, or epidermal necrosis

Suggested interventions
- Transducer array removal from site of ulcer–consider re-placement to avoid area of breakdown/skin issue
- Wound dressing with gauzes, hydrogels, or hydrocolloids
- Treat with topical antibiotics
- Consider wound culture
- Keep clear of excess discharge and dead skin (severe cases may require surgical debridement)
- Return to clinic in 2 weeks; if condition persists, consider oral antibiotic/treatment break

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Hyperhidrosis[3]

Symptoms:
- Excessive sweating

Potential causes
- Genetic predisposition
- Hot/humid climate
- Intense activity
- Medications

Suggested interventions
- Aluminum zirconium, antiperspirant or topical glycopyrrolate at every array exchange
- Avoid using ointments and medications that may cause sweating
- Anti-sweat, breathable sportswear or loosely woven materials are advised

Folliculitis and infection[3]

Symptoms:
- Inflammation of skin or hair follicle (red pimple with hair in the center)
- Moist or depressed lesion
- Pus, itching, or burning possible

Potential causes
- Secondary bacterial infection
- Infection with or without pustules may occur when the skin is affected by pathogenic bacteria

Suggested interventions
- Assess and treat with topical antibiotics
- Warm compresses with saltwater or Burow's solution (5% aluminum subacetate)
- Take culture and potentially refer to dermatologist
- Return to clinic in 2 weeks for reassessment

Dermatitis and rash[2,3]

Symptoms:

1. Contact dermatitis:
   - Skin rash (red, itchy, papules)
2. Irritant dermatitis:
   - Skin redness (itchy, painful)
   - Mild edema
   - Local, at area of irritant

Potential causes

1. Contact: Allergy to specific exogenous allergens, such as adhesive tape and/or hydrogel, that come into contact with the skin, causing an inflammatory reaction
2. Irritant: Nonspecific inflammation caused by chemical irritation from hydrogel, moisture, and/or alcohol

Suggested interventions

- Immediate removal of the irritant/allergen
- Array removal from irritation site
- Mild-to-moderate strength topical steroid creams or solutions
- Consider trimming adhesive or tubular elastic bandage retainer if reaction exists to tape or adhesive
- If blistering: apply cold, moist compress (20 minutes; 3 times/day)

Pruritus[3]

Symptoms:

- Dry skin (xerosis)
- Itchy skin (pruritus)

Potential causes

- Genetic predisposition
- Cold/dry climate
- Loss of water/oil
- Medications
- May be related to contact dermatitis

Suggested interventions

- Limit skin contact with alcohol-based products
- Topical corticosteroids (eg, betamethasone, clobetasol, water-based fluocinonide) may be prescribed if inflammation is present

Suggested interventions based on "Prevention and Management of Dermatologic Adverse Events Associated With Tumor Treating Fields in Patients With Glioblastoma" from Lacouture, et al.[3]

Advise patients on how to apply topical agents for dAE management

Depending on diagnosis, recommended treatments typically include topical antibiotics and topical corticosteroids[2,3]

Patient instructions on how to apply topical medications[2,3]

- Patients should only apply topical agents when they exchange arrays (at least 2 times a week, and every 4 days at most)
- Remove arrays and any excess residue
- Wash skin using water or gentle hypoallergenic soap, and pat dry
- Apply a thin layer of the topical medication (eg, corticosteroid or antibiotic cream/solution) to affected area(s)
- To allow for proper absorption, leave uncovered for roughly 15 to 20 minutes
- Any residue should be removed prior to array placement
- For skin barriers compatible with Optune Lua®, always remove and reapply when replacing arrays (**water-based** lotions, soaps, and foams are preferred)
- Apply new arrays to dry skin, ensuring that arrays are shifted approximately 2 cm at each exchange and are not placed over wounds, scars, surgical screws, or ports

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Selected Safety Information

Warnings and Precautions (cont'd)

The most common (≥10%) adverse events involving Optune Lua concurrent with PD-1/PD-L1 inhibitors or docetaxel were dermatitis, musculoskeletal pain, fatigue, anemia, dyspnea, nausea, cough, diarrhea, anorexia, pruritus, leukopenia, pneumonia, respiratory tract infection, localized edema, rash, pain, constipation, skin ulcers, and hypokalemia.

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Learn when treatment breaks may be needed

Interruption may be required for persistent or severe dAEs that do not improve despite management[2]

- Only 6 (4%) of the 141 patients in the LUNAR trial had a severe skin issue requiring a break from treatment. Skin issues resolved in all cases after stopping treatment with Optune Lua[1]

Instructions on treatment interruptions[2,3]

- Interruption may be required for persistent or severe dAEs that do not improve despite management
  - Skin ulcerations may require extra attention
- Interrupting for 2-7 days in addition to topical treatment may be sufficient
- Resume treatment when the dAE no longer interferes with placement of array
- Keep treatment breaks to a minimum when possible

Note: Skin irritations associated with treatment with Optune Lua may be managed with proper skin care and the use of medications without discontinuing therapy.[2,4]

- 19 (13%) of 141 patients in the LUNAR trial discontinued treatment with Optune Lua due to toxicity related to device usage[4]

AE, adverse event; dAE, dermatologic adverse event.

Selected Safety Information

Warnings and Precautions (cont'd)

Other potential adverse effects associated with the use of Optune Lua include treatment related skin toxicity, allergic reaction to the adhesive or to the gel, overheating of the array leading to pain and/or local skin burns, infections at the site where the arrays make contact with the skin, local warmth and tingling sensation beneath the arrays, medical device site reaction, muscle twitching, and skin breakdown or skin ulcer.

If the patient has an underlying serious skin condition on the chest, evaluate whether this may prevent or temporarily interfere with Optune Lua treatment.

Indication and Important Safety Information

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References: 1. Optune Lua for Non-Small Cell Lung Cancer (NSCLC). Physician Instructions for Use. Novocure; 2024. **2.** Optune Lua. Patient Information and Operation Manual for Non-Small Cell Lung Cancer. Novocure; 2024. **3.** Lacouture ME, Anadkat MJ, Ballo MT, et al. *Front Oncol*. 2020;10:1045. doi:10.3389/fonc.2020.01045 **4.** Novocure Data on File 2024. US-DOF-0046. **5.** Anadkat MJ, Lacouture M, Friedman A, et al. *Front Oncol*. 2023;12:975473. doi:10.3389/fonc.2022.975473 **6.** Novocure Data on File 2024. DOF-0018.

For Optune Lua® dAEs follow M^3: **mitigate** with preventative care, **monitor** symptoms, and **manage** with proper treatment

Aftercare and patient visits[2,3]

- To allow for skin inspection, request patients not wear the arrays to follow-up visits
- Educate patients and caregivers about array changes, hygienic measures, and proper skin care
- Encourage patients to report and keep a photograph diary of any skin problems
- In case of dAEs, increase frequency of follow-up visits (consider virtual consultation)

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dAE, dermatologic adverse event.

Support

Contact your Novocure representative or visit OptuneLuaHCP.com for additional resources.

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