ONS Guidelines™ for Cancer Treatment–Related Radiodermatitis

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PURPOSE: Radiodermatitis is a side effect of radiation therapy. Evidence-based interventions to minimize severity or delay progression are important for clinical care. This guideline intends to support individuals with cancer, clinicians, and others in decisions regarding radiodermatitis treatment.

METHODOLOGIC APPROACH: A panel of healthcare professionals with patient representation was convened to develop a national clinical practice guideline for the management of radiodermatitis. GRADE (Grading of Recommendations Assessment, Development and Evaluation) methodology and the National Academies of Sciences, Engineering, and Medicine criteria for trustworthy guidelines were followed. The Cochrane Collaboration risk-of-bias tool was used, and certainty of the evidence was assessed using the GRADE approach. A quantitative and narrative synthesis of the evidence was completed.

FINDINGS: The panel agreed on eight recommendations and made a conditional recommendation for deodorant/antiperspirant. Aloe vera and oral curcumin had knowledge gaps and were recommended only in the context of a clinical trial. The panel suggested against emu oil, calendula, and nonsteroidal interventions.

IMPLICATIONS FOR NURSING: This guideline summarizes evidence-based interventions for the management of radiodermatitis to guide clinical care.

KEYWORDS radiodermatitis; guidelines; GRADE; radiation therapy; symptom management

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About 1.8 million people will be diagnosed with cancer in the United States in 2020, and about 50%–70% of them will receive radiation therapy (American Cancer Society, 2020; Ballas et al., 2006; Wei et al., 2019). Radiation therapy can lead to acute and late side effects. Radiodermatitis, sometimes referred to as radiation-induced skin reactions or radiation dermatitis, is one of the most reported side effects of radiation therapy that can affect as many as 95% of patients across treatment sites (Gewandter et al., 2013; Gosselin et al., 2010). Radiodermatitis can have a minimal to significant impact on a patient's quality of life and may also have associated out-of-pocket costs (Schnur et al., 2012). In a nationwide survey of patient perspectives of treatment, 16% of patients who received radiation therapy reported that their skin burning was worse than they expected, 39% reported it being not as bad or the same as expected, and 45% did not experience any skin burning (Shaverdian et al., 2019).

Factors that contribute to radiodermatitis include treatment volume, daily dosage and total dose, energy and type of radiation therapy, and total treatment time (Gosselin et al., 2010). Individual factors associated with developing radiodermatitis include higher body mass index, smoking, older age, and genetic variants (Mumbrekar et al., 2017; Sharp, Johansson, et al., 2013). In addition, other treatment modalities may also put a patient at risk for radiodermatitis.

Several grading and assessment tools are commonly used to document skin changes during radiation therapy and are important to use for consistency and continuity of management during and after radiation therapy. The Radiation Therapy Oncology Group (RTOG) grading system includes a 0–4 scale based on objective skin changes, with RTOG 0 being