IOS Innovative Oncology Solutions

eXaSkin Personalized Bolus



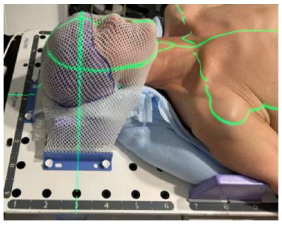
Simplifying complex superficial treatments

Radiation Therapists

Custom bolus made easy

eXaSkin is a moldable, high-density bolus for selected superficial photon treatments, including VMAT, adapting to complex contours without a 3D printer. Mold eXaSkin before the planning CT, then scan and plan with the bolus in place. Use that same patient-specific bolus throughout treatment, reproducing its placement from the planning CT at each fraction, aiming for close skin contact over the treatment area.

Illustrative clinical applications

Clinical example	Clinical setup	Planning images
External Ear		
Nose and Face		
Breast		
Other	 Scalp  Vulva  *Feet/Other Extremities*	

Fast, easy personalization | Close anatomical fit | Reproducible placement

Medical Physicists and Dosimetrists

Plan the bolus like it's part of the body

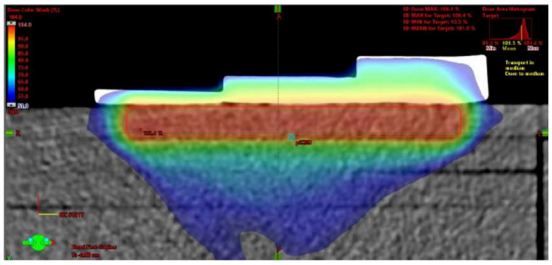
Include the actual bolus geometry within the planning CT and dose-calculation volume. Use a locally validated approach to CT calibration, material assignment and dose calculation. In Dadoun et al., CT-derived HU were retained without a density or material override; Acuros XB provided the closest agreement with measurements under the tested conditions. [3] The dose you plan is the dose you deliver!

Planning with variable bolus thickness

eXaSkin can produce a bolus effect even with 2mm of thickness. A pre-established thickness is not required. Variable thickness can be incorporated into the photon plan. The example below shows a calculated 6 MV VMAT dose distribution beneath 2, 7 and 12 mm steps, illustrating the planning flexibility of eXaSkin.



Stepped bolus on a phantom.



Illustrative calculated dose distribution.

Published evidence supports photon build-up, dose calculation and clinical feasibility.

Study	What was measured and found	Practical interpretation
Al-Sudani 2019 [1]	For 6 MV photons, dose maximum occurred at about 9 mm in eXaSkin versus 15 mm in solid water.	Photon build-up occurs over a shorter physical distance in eXaSkin.
Al-Sudani 2020 [2]	In a head-and-neck phantom, measured skin dose agreed with calculations within 1.22% for an open field and 5.68% for VMAT.	Measurements confirmed dose calculation and reproducible bolus placement on complex contours.
Dadoun 2026 [3]	With 10 mm bolus and 6 MV FFF photons, Acuros XB depth-dose differences averaged −0.1%, with a maximum deviation of 1.5%.	Acuros XB accurately modeled dose through the high-density bolus.

eXaSkin provides easy, personalized bolus with no uniform-thickness requirement, ideal for conformal photon treatment of any superficial target. It is available in three sizes:

150g	225g	650g
Nose • Ear • Eyelid • Lip • Fingers	Face • Neck • Shoulder • Forearm	Whole Breast • Chest Wall
Hand • Foot • Small Skin lesions	Partial Breast • Chest Wall Scar	Large Scalp • Pelvis • Buttock
		Thigh • Large Extremities • Vulva

[1] Al-Sudani T et al. J Phys Conf Ser. 2019;1154:012024. doi:10.1088/1742-6596/1154/1/012024

[2] Al-Sudani TA et al. Phys Med. 2020;80:42–46. doi:10.1016/j.ejmp.2020.09.002

[3] Dadoun J et al. J Appl Clin Med Phys. 2026;27:e70718. doi:10.1002/acm2.70718