regulation, and hedgehog signaling in facial clusters, indicating that the embryonic origins of fibroblasts contributed to skin scarring.

**CONCLUSION:** Our study shows there is a high degree of fibroblast heterogeneity across embryonic regions, which can contribute to the diversity in skin scarring across the body. Identification of distinct scarring fibroblast subpopulations will allow us to develop targeted antifibrotic treatments to overcome skin fibrosis.

### The Effects of Perioperative Hypothermia in Deep Inferior Epigastric Artery Perforator Flap Breast Reconstruction: A Multivariate Regression Analysis

**Evan J Fahy, MB BCh BAO, MCh**
Royal College of Surgeons in Ireland, Ireland

**INTRODUCTION:** Perioperative hypothermia (PH) conveys multiple well-recognized adverse outcomes. Thermoregulation is particularly pertinent in deep inferior epigastric artery perforator (DIEP) flap breast reconstruction due to increased exposed body surface and prolonged operative course. No DIEP-specific literature on PH incidence or associated adverse outcomes exists. We assessed risk of adverse outcomes in patients undergoing DIEP flap reconstruction between hypothermic vs normothermic groups.

**METHODS:** Data from DIEP patients attending a single center were retrospectively reviewed. Patient demographics, comorbidities, operative details, temperature recordings, and adverse outcomes were compared between PH (≤36.5°C) and normothermic (>36.5°C) groups. Descriptive statistics were generated using chi-square and Fisher exact tests, and multivariate regression analysis was used to estimate relative risk of adverse events, adjusted for confounders.

**RESULTS:** Ninety-eight patients (113 flaps; 83 unilateral and 15 bilateral), including 43 immediate, 53 delayed, and 2 concurrent immediate-alongside-delayed reconstructions were reviewed. No significant differences existed between groups in patient or procedural statistics; 57.14% of patients experienced PH. Patients with PH had higher rates of cellulitis (19.64% [n = 11] vs 2.38% [n = 1]; p = 0.011) and infection. Hypothermia was associated with cellulitis on regression analysis (odds ratio 0.094; 95% CI, 0.01 to 1.02), but only marginally significant after adjustment for confounders (odds ratio 0.099; 95% CI, 0.01 to 1.02). Thirteen cases of fat necrosis occurred in the hypothermic group and none occurred in the normothermic. PH was not associated with wound complications.

**CONCLUSION:** PH is a relatively common occurrence and was associated with increased rates of cellulitis and infectious incidences in this cohort. However, these associations lacked statistical significance after adjustment in regression analysis. Fat necrosis can be associated with PH. In addition, more robust studies, with inclusion of additional metrics, particularly detailing flap parameters and perforator involvement, are required.

### Topical Deferoxamine Patch Is Superior to Direct Injection for the Treatment of Radiation-Induced Skin Fibrosis

**Christopher V Lavin, MS, Darren B Abbas, MD, Evan J Fahy, MD, Daniel K Lee, MD, Michelle Griffin, MBChB, PhD, Nestor M Diaz Deleon, BS, Shamik Mascharak, BS, Geoffrey C Gurtner, MD, FACS, Michael T Longaker, MBA, FACS, Derrick C Wan, MD, FACS**
Stanford University, Hagey Laboratory, Stanford, CA

**INTRODUCTION:** Deferoxamine (DFO) improves cutaneous radiation-induced fibrosis (RIF). This study compared direct DFO