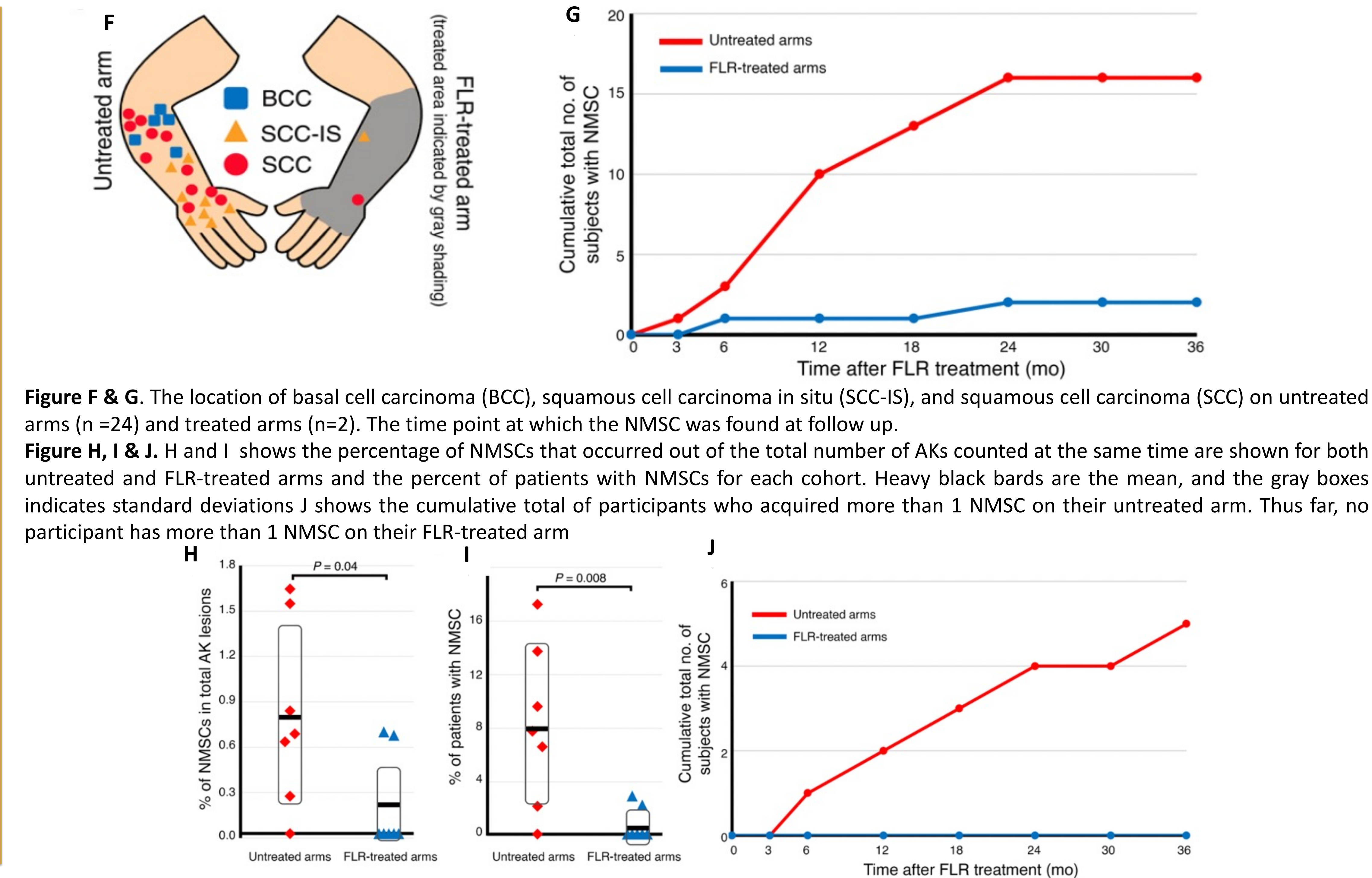
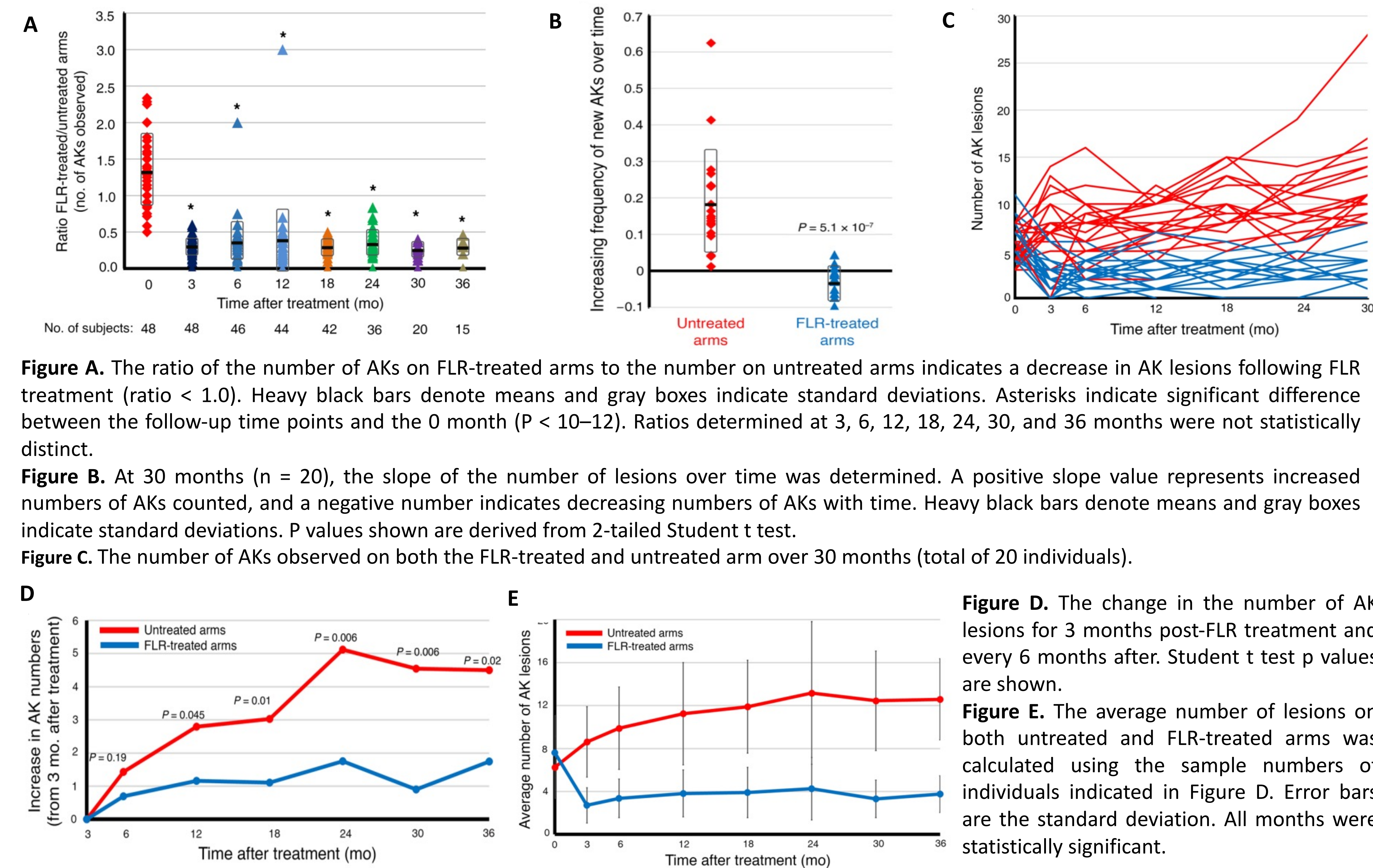


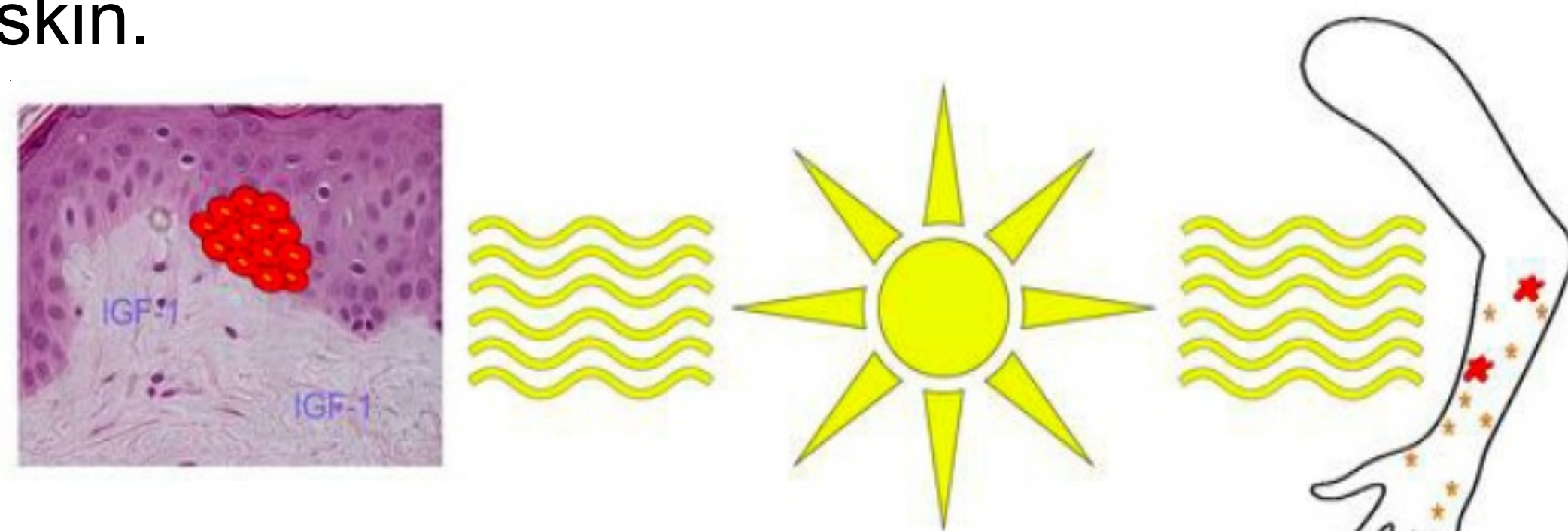


## Results



## Introduction

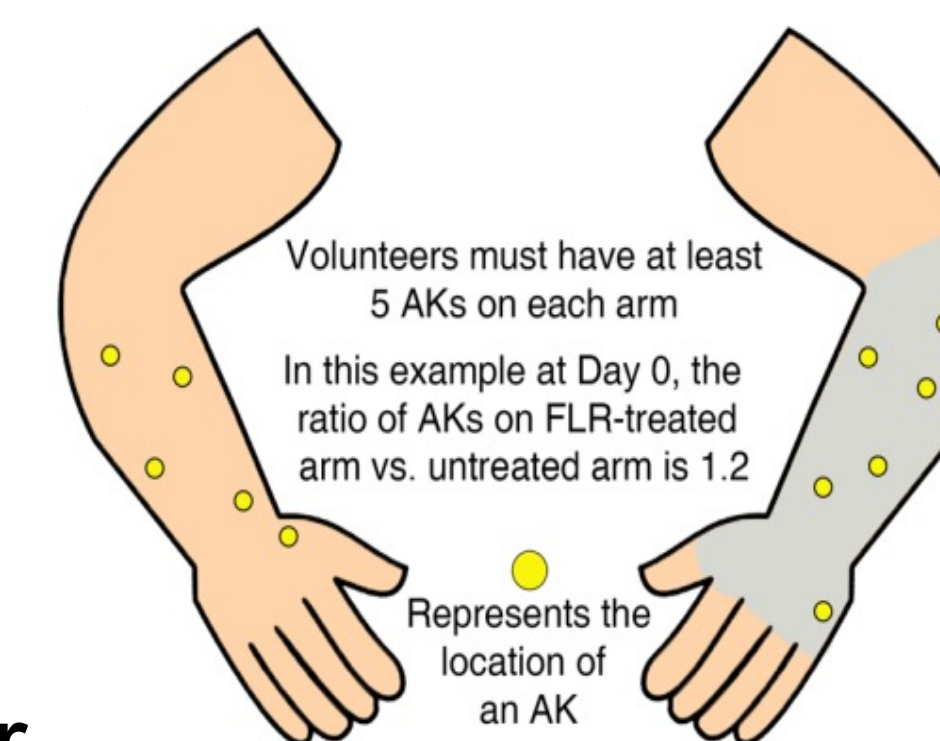
- Actinic keratoses (AK) are pre-cancerous lesions that have been associated with increased age and exposure to ultraviolet light.
- Actinic keratoses are the precursor lesions to non-melanoma skin cancer (NMSC)
- Aging results in the loss of insulin-like growth factor 1 (IGF-1) expression in senescent dermal fibroblasts.
- Fractionated laser resurfacing (FLR) has been used for the treatment of facial lines, sun damage, skin pigmentation, and acne scarring.
- Various wounding therapies such FLR, dermabrasion, and micro-needling have been shown to upregulate IGF-1 levels in geriatric skin.



UVB exposure on aged skin containing low levels of IGF-1 derived from senescent fibroblasts leads to actinic keratosis and non-melanoma skin cancer

## Methods

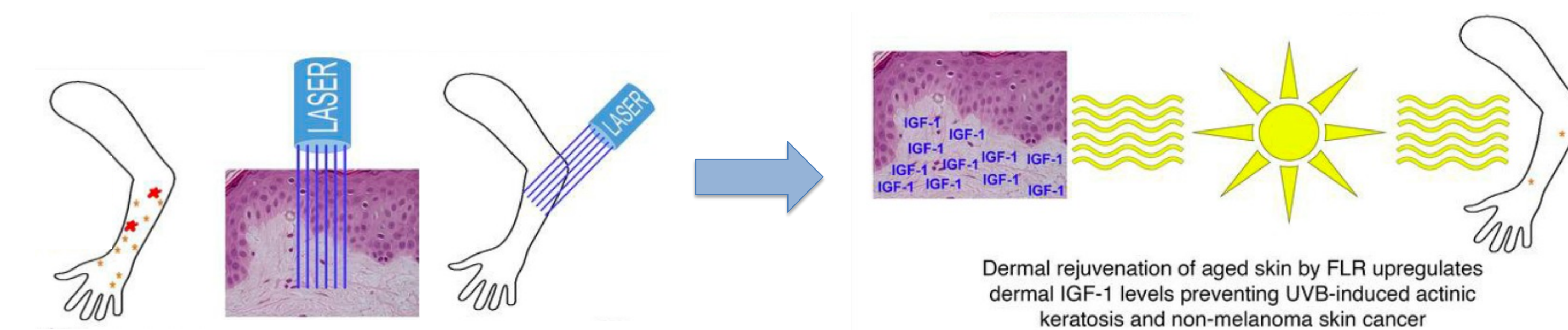
- 48 individuals over the age of 60 with at least 5 AKs on each forearm/wrist were recruited from patients at the Dayton Veterans Administration Medical Center dermatology clinics.
- Subjects were randomly divided into two cohorts: treatment on either the left arm or the right arm.
- The treatment arms were shaved, cleaned, and given 4% xylocaine cream for anesthesia.
- 120 mJ of energy per micro spot were lasered on the treatment arm and the patients were provided with the necessary post-treatment instructions.
- Number of AKs were recorded on day 0. Subjects returned 3- and 6-months post-treatment, then every 6 months after for AK documentation in a blinded fashion.



Representative clinical appearance of skin at various times after FLR.

## Conclusion

- These studies suggest that wounding of geriatric skin normalizes the pro-carcinogenic UVB response of aged skin.
- FLR slows the rate at which new AK lesions appear.
- FLR is potentially an effective method for NMSC prophylaxis in high-risk populations.
- The study is ongoing with current data at 48 months and increasing in sample size. The study strives to measure the potential length of NMSC prophylaxis.
- Further studies can aid in understanding the mechanisms of aging and occurrence of basal cell and squamous cell cancer.



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