Incidence and survival of primary dermatofibrosarcoma protubersa in the United States

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We sought to describe the incidence and survival of primary dermatofibrosarcoma protuberas (DFSP) in the United States. We used data from the 18 registries of the Surveillance, Epidemiology, and End Results Program from 2000-2010 to calculate the incidence of and survival from primary DFSP. Overall incidence was 0.41 per 100,000 person-years. Incidence remained steady over the study period, but the rate was higher among patients with active life-limiting anatomic sites at all age groups except men over the age of 80. Incidence among women was 1.14 times higher than men (95% CI of rate ratio: 1.07-1.22). Incidence among blacks was almost 2 times the rate among whites (95% CI of rate ratio: 1.82-3.11). Ten-year relative survival of DFSP was 99% (95% CI: 97%-99%). Increasing age, male sex, and black race were associated with higher all-cause mortality. Anatomical location of the upper limb, lower limb, and head were associated with higher mortality as compared to the most common location of the trunk. The epidemiology of DFSP differs from most skin cancers. Our data show that incidence of DFSP has not changed over the last decade. Incidence among blacks is almost twice that of whites. This is the first report showing statistically higher incidence among women than men. Worse survival is associated with increased age, male sex, black race and anatomic location of the limbs and head.

Appearance-based video education is more effective than health-based video education in promoting sunscreen use among adolescents: A randomized controlled trial

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Skin cancer prevention interventions include appearance-based or health-based messages to educate schoolchildren. The study objective was to compare the effectiveness of appearance-based video education, with that of health-based video education in improving sunscreen use and knowledge. In a randomized controlled trial, participants viewed an appearance-based video on ultraviolet (UV)-induced premature aging or a health-based video emphasizing UV exposure and skin cancer risk. Sunscreen use was assessed at baseline and at 6-weeks post-intervention. A satisfaction survey asked the kids to rate the usefulness, appeal, and entertainment quality of the videos. Fifty-six high school students participated in the study in 2012. Within-group analysis showed that the health-based video resulted in a non-significant increase in sunscreen use (0.9 ± 1.9 days per week, p=0.096). The appearance-based video resulted in a significant increase in sunscreen use (2.8 ± 2.2, p<0.001). Between-group comparisons revealed that those randomized to the appearance-based video applied sunscreen more often than those randomized to the health-based video (2.2 ± 1.4 versus 0.2 ± 0.6, p<0.001). Although knowledge significantly improved in both study groups after video education, the difference in improvement after 6-weeks was not significant between those randomized to the appearance-based video (1.2 ± 2.0) and health-based video (0.9 ± 1.7), p=0.651. The appearance-based video received a higher usefulness rating than the health-based video (8.1 ± 0.2 versus 6.4 ± 0.3, respectively, p<0.001). The appeal of the appearance-based video (8.1 ± 0.2) was also higher than the health-based video (6.6 ± 0.5, p<0.001). The quality rating between the appearance-based video (7.8 ± 0.3) and health-based video (8.1 ± 0.2) was not significantly different, p=0.517. Appearance-based education can improve sunscreen knowledge, promote sunscreen use, and be easily disseminated by video.

Intake of antihypertensives suspected, according to published reports, of triggering pemphigus by pemphigus patients: The large-scale problem

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While there are numerous case reports on antihypertensives (AH)-induced pemphigus, detailed studies showing the scale of the issue are needed. Here, the hospital records regarding AH intake of pemphigus patients were compared to those of healthy individuals. Antihypertensives were classified into non-antihypertensive (AH) and non-AH groups. A total of 140 pemphigus cases were analyzed from 2004-2021. Patients with a history of AH intake were more frequently AH-antihypertensives users (OR 0.93; 95% CI, 0.81-1.07). Differences were significant in patients with non-AH-antihypertensives (OR 3.46; 95% CI, 1.33-1.55) and AH-antihypertensives (OR 2.56; 95% CI, 1.11-4.83) than those AH-non-AH antihypertensives users. Pemphigus triggered by antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001). Pemphigus triggered by AH antihypertensives, such as DPP4 inhibitors, were significantly more frequent in the AH group (p<0.001).
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287  Positive predictive value of the diagnostic code for hidradenitis suppurativa in an electronic database improves as number of codes increases

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Our goal was to validate the diagnostic code for hidradenitis suppurativa (HS) in an electronic medical record database. The medical records of 1,166 patients who had received at least two International Classification of Disease, Ninth Revision (ICD-9) codes were manually screened and validated in chart review as having HS. The positive predictive value (PPV) was assessed by code frequency in 1-, 2-, 3-, and 5-year windows. 1,046 (89.6%) patients were confirmed as having HS. The mean age (standard deviation, SD) of the cohort was 27.8 (15.7) years, with 626 (59.2%) female patients. The PPV of having 1 code vs 0 was 85.9%, 86.2%, and 86.9% at 1, 2, and 3 years, respectively. Three of the 5-year window had a PPV of 86.9% (95% CI: 86.5, 91.1) for a non-dermatologist entered code. The PPV of having 2 codes or having 4 or more codes remained stable between both 1- to 5-year time periods at 82.1% (95% CI: 78.1, 85.6) to 83.2% (95% CI: 79.1, 86.6) and 97.0% (95% CI: 94.9, 98.4) to 96.6% (95% CI: 94.7, 97.9), respectively. Three codes in a 1-year time window had a PPV of 89.2% (95% CI: 83.5, 93.5) that decreased to 86.0% (95% CI: 80.2, 90.7) at 2 years and 86.2% (95% CI: 80.5, 90.8) at 5 years. Establishing the validity of diagnostic codes in electronic databases is a crucial step for subsequent studies utilizing these databases.

288  Patient-reported outcomes differ between psoriasis patients with clear and almost clear skin in the routine clinical practice setting: Results from the Dermatology Clinical Effectiveness Research Network

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There is little evidence to guide the establishment of treatment goals for patients with moderate to severe psoriasis, and educating providers and patients.

289  Factors associated with being clear/almost clear of psoriasis in patients receiving adalimumab, etanercept, or methotrexate as part of routine clinical care

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While treatment options for psoriasis continue to expand, little is known about clinical factors that predict therapeutic response. Our goal was to identify which patient-related factors are associated with a favorable clinical response to therapy. We conducted a cross-sectional study of patients who were receiving adalimumab (N=98), etanercept (N=74), and methotrexate (N=61) for a minimum of 1 year. Factors associated with increased odds of being clear/almost clear compared to patients who were obese (adalimumab adjusted odds ratio [OR] 4.13; 95% confidence interval [CI], 1.44-12.14; etanercept adjusted OR 2.97; 95% CI, 1.16-7.67), for methotrexate, women were more likely to be clear/almost clear compared to men (adjusted OR 1.32; 95% CI, 1.00-1.76). All other examined factors including age of psoriasis onset, psoriasis duration, total number of comorbidities, prior treatment history, psoriasis extent at its worst, and family history of psoriasis were not significantly associated with being clear/almost clear for any of these treatments. Our results indicate obesity to be associated with poor response to adalimumab and etanercept therapy, suggesting the need for weight based dosing of these biologics. We also found female sex to be the only clinical factor associated with a better response to methotrexate - a new finding that deserves further study.

290  Buying indoor UV tanning with university debit cards

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The booming indoor ultraviolet (UV) tanning industry in the United States is linked with morbidity and mortality outcomes. Since 1996, multiple states have enacted laws banning the sale and/or possession of indoor tanning products to minors. University agreements with tanning salons constitute endorsements of indoor tanning, which has been designated as a carcinogen by the World Health Organization. We call for all universities to limit the purchasing of indoor UV tanning and related products with university debit cards.

291  Greater utilization of high-cost care settings by patients with hidradenitis suppurativa

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The objective of this study is to assess how individuals with hidradenitis suppurativa (HS) utilize medical care in order to identify opportunities to improve the value and efficiency of care. A retrospective analysis of a medical claims database from 2008 to 2010 was performed to identify claims by patients with HS, psoriasis, and a control group of patients with neither condition. Direct costs were calculated as all-cause cost for the three-year period; patient and indirect costs were not included. Amounts are reported in 2010 US dollars and were adjusted for inflation. The largest component of the total 1-year cost for the HS group was inpatient cost (37.4%). In contrast, the largest component for the psoriasis group was drug costs (46.5%) and for the control group was inpatient cost (37.4%). Inpatient costs were similar for the 3 groups (p=0.99). One of the drivers of increased health care spending was the inappropriate use of high-cost care settings, such as inpatient and ED settings, for conditions such as HS that can be managed in an outpatient setting. High ED utilization by patients with HS suggests that there is an opportunity to investigate the drivers behind ED utilization. Possible actions include timely communication with patients, ensuring outpatient access for acute disease flares, and educating providers and patients.

292  Representation of the top three most disabling skin diseases in the cochrane database of systematic reviews

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The Global Burden of Disease (GBD) 2010 project established dermatitis, acne vulgaris, and bacterial skin diseases as the three most disabling skin conditions globally using the metric of disability-adjusted life years (DALY). We sought to determine whether topics in The Cochrane Database of Systematic Reviews with their respective disability, measured in DALY metrics from GBD 2010. All 15 skin conditions were represented by at least one systematic review in The Cochrane Database of Systematic Reviews. Dermatitis was well matched with the most reviewed and protocols and highest disability. The next two most disabling diseases, acne vulgaris and bacterial skin diseases, were under-represented. Similarly, lichen planus, pruritus, lichen scabies, and lupus were over-represented when matched with corresponding disability estimates. Viral and fungal skin diseases, melanoma, and seborrheic dermatitis were under-represented. Collaboration, medline search and inclusion criteria may influence the future work priorities in The Cochrane Database of Systematic Reviews. Other factors influencing prioritization will include whether disease disproportionately affects disadvantaged populations, cost, availability and lack of cost-effective interventions, interest-group advocacy, disease transmissibility, public interest, opportunity for scientific innovation, and infrastructure building. Our results suggest the clearance of psoriasis abrogates the negative impact that active psoriasis has on quality of life (QoL) than patients with almost clear skin (relative risk 1.60; 95% confidence interval, 1.37-1.86). Our results suggest that clearance of psoriasis abrogates the negative impact that active psoriasis has on quality of life (QoL).
293 Langerhans cell histiocytosis and hematological malignancy: A Mayo Clinic experience
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The goal of this study was to identify patients diagnosed with Langerhans cell histiocytosis (LCH) and determine the incidence of patients who had concurrent hematological malignancy. Due to the varied clinical course of LCH, there have been efforts to distinguish high-risk patients and predict disease progression based on organ system involvement. Previous studies have reported worse prognosis with involvement of ‘risk organs’ such as the hematopoietic system; however, the incidence of hematological malignancy in LCH patients is unknown. We identified 58 Mayo Clinic patient records with a final diagnosis of LCH (or equivalent term) and hematological malignancy. Objective: To determine the prevalence of pigmentary disorders among women in Shanghai, China. Methods: A self-diagnostic tool was developed and validated in 82 Asian women. Subsequently, 9000 women were approached in Shanghai, China, from which 660 women agreed to use the tool for self-diagnosis of pigmentary disorders. Results: The prevalence of lentigines, melasma and chronic actinic keratoses were 41.7%, 18.5%, and 10.5%, respectively. Limitations: Generalizability of results is limited to Chinese women living in Shanghai. Conclusion: The prevalence of pigmentary disorders among women in Shanghai, China is high. The self-diagnostic tool developed in this study is reliable and valid for diagnosing asymptomatic disorders in Asian women. Future studies should be performed with this tool to determine prevalence of these disorders in Asian women in other areas of the world.

295 The prevalence of pigmentary disorders among women in Shanghai, China is high
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Background: Disorders of pigmentation are common, but little is known about their prevalence. Objective: To determine the prevalence of pigmentary disorders among women in Shanghai, China. Methods: A self-diagnostic tool was developed and validated in 82 Asian women. Subsequently, 9000 women were approached in Shanghai, China, from which 660 women agreed to use the tool for self-diagnosis of pigmentary disorders. Results: The prevalence of lentigines, melasma and chronic actinic keratoses were 41.7%, 18.5%, and 10.5%, respectively. Limitations: Generalizability of results is limited to Chinese women living in Shanghai. Conclusion: The prevalence of pigmentary disorders among women in Shanghai, China is high. The self-diagnostic tool developed in this study is reliable and valid for diagnosing asymptomatic disorders in Asian women. Future studies should be performed with this tool to determine prevalence of these disorders in Asian women in other areas of the world.

296 Indoor air pollution from cooking with coal or firewood accelerates skin aging in northern Chinese women
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We recently showed that exposure to outdoor air pollution from traffic and industry is associated with an increased risk for skin aging in German women. In the present cross-sectional study we studied 40 older women ages 50-79 years living in Shanghai, China. The study included nicotine-free cigarettes rather than less harmful cigarette smoking, the use of indoor air pollution from cooking with coal or firewood and skin aging in Chinese women from a northern, rural area of China. Skin aging was evaluated by a validated tool, the SCINEXA2. Indoor air pollution exposure, skin exposure, smoking and other confounders were assessed by validated questionnaires. In adjusted linear and logistic regression analyses we tested the association between indoor air pollution and skin aging. We found that indoor air pollution was significantly associated with an increased appearance of wrinkles on the forehead (p=0.03), wrinkles under the eyes (p=0.02), and wrinkles on the upper lip (p=0.03), brown lines (p=0.006), depth of the nasolabial fold (p=0.001), telangiectasia (p=0.001), laxity of eyelids (p=0.001), cheek laxity (p=0.001), pigment spots on back of arms (p=0.003) and hands (p=0.003), uneven pigmentation on bottom side of the arm (p=0.039) and fine wrinkles on back of hands (p=0.001). Previously, in German women, we observed a significant increase in the nasolabial fold depth with an increase in outdoor air pollution, but also a pronounced increase of pigment spots on face, which we did not observe in the present study in Chinese women. The present study thus corroborates our previous finding that air pollution is associated with skin aging and extends it by showing that indoor air pollution might be another risk factor for skin aging and that ethnic differences might influence the clinical manifestation of pollution-driven skin aging.

297 Non-melanoma skin cancer and NSAID use in women with a history of skin cancer in the Women’s Health Initiative (WHI)
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Non-steroidal anti-inflammatory drugs (NSAIDs) are associated with a decreased risk of a variety of malignancies. However, data on the effect of NSAIDs on non-melanoma skin cancer (NMSC) risk are inconsistent. We prospectively examined whether regular NSAID or acetaminophen use is associated with a lower risk of NMSC in the Women’s Health Initiative (WHI) Observational Study (OS). Regular use at baseline and year 3), inconsistent use (only at baseline or year 3), or non-use of NSAIDs (<2 times/week) was assessed among 54,728 postmenopausal Caucasian women aged 50-79 years. Logistic regression models were used to assess odds of NMSC after adjusting for skin type, weight, and smoking history. During a median follow-up period of 6.9 years there were 7,652 incident cases of NMSC. There was no association between regular use of any NSAID and the risk of NMSC relative to non-users. However, in a subgroup analysis of 5,488 women with a history of skin cancer, relative to non-users, odds of NMSC were maximally reduced for regular NSAID users (OR 0.75; 95% CI 0.60-0.98) and for sustained use of regular NSAID users (OR 0.82; 95% CI 0.69-0.98) of use. Inconsistent NSAID use and acetaminophen use were not associated with risk of NMSC. In women with a history of skin cancer, regular NSAID use was associated with 18% lower risk of NMSC. Further clinical studies are warranted to investigate the chemoprotective effects of NSAIDs in those at high risk for developing NMSC.

298 Female gender and acne disease are jointly and independently associated with the risk of major depression and suicide: A national population-based study
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Acne is a common disease in adolescence with female preponderance. It could cause poor self-esteem and social phobia. Previous studies based on questionnaires from several thousand adolescents showed that acne is associated with major depression and suicide. However, the gender- and age-specific risk of depression and suicide in patients with acne remains elusive. Using a database from national Health Insurance, which includes 98% of population of Taiwan in 2006, we identified patients of acne, major depression, and suicide based on ICD-9-CM codes. Totally 471111 patients with acne were identified (16568 males and 3054 female) from 1 million subjects. The youths 7-12 years had the highest prevalence of acne (14.79%). Major depression were more common in those with acne (0.77%) than controls (0.56%; p<0.0001) regardless of gender. Multiple logistic regression showed an increased risk to major depression in women without acne (OR=1.85, 95% CI 1.75-1.96) and men with acne (OR=2.78, 95% CI 2.43-3.17). Similar additive risk of suicide was noticed in women with acne (OR=2.78, 95% CI 2.43-3.17). Similar additive risk of suicide was noticed in women with acne (OR=2.78, 95% CI 2.43-3.17). Similar additive risk of suicide was noticed in women with acne (OR=2.78, 95% CI 2.43-3.17). Similar additive risk of suicide was noticed in women with acne (OR=2.78, 95% CI 2.43-3.17).
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The presence of T-cell clonality at presentation with mycosis fungoides is not influenced by patient gender or age
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The presence of clonal rearrangement of the T-cell receptor gamma (TCR-gamma) chain gene by polymerase chain reaction may serve as an adjunct tool in the diagnosis of Mycosis Fungoides (MF). Recent data suggest that the incidence and progression of MF differs between Caucasian and African American (AA) patients, and particularly AA women who present before age 40. Clonality differences between races and age groups at presentation have not been published. A retrospective analysis of patients with T-cell lymphoma undergoing a cohort of nevus development in children and adults awarded the National Institutes of Health (NIH) for the purpose of measuring and comparing nevus development in different racial and ethnic groups. With this study, we aimed to assess the growth dynamics of existing nevi and determine the risk factors associated with nevus growth in children.

Children with chronic itch (ITQ3) (48%) and chronic itch (ITQ5) (29%) were assessed in dermatology clinic, considering patients completed the appropriate version of the ITQ5 at baseline and two follow-up visits. The duration of the first time the survey was administered was measured to determine feasibility. Data from 1970 patients in MF and SS were available from database. The population at baseline was younger. The authors used a validation tool to determine the efficacy of the ITQ5.

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Hotspots of CTCL cases in Houston and Texas: A comparison of the MD Anderson and Texas cancer registries
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Cutaneous T-Cell Lymphoma (CTCL) is a rare cancer with a documented incidence of 4-8 cases per million individuals per year. The purpose of this study was to compare the incidence of CTCL in Texas and determine if there are any geographic hotspots for CTCL within the state of Texas, but outside the Houston metropolitan area. We analyzed by region, zip code, age and eth-}

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Itch prevalence and characteristics in hispanic geriatric population: A comprehensive study using a validated itch questionnaire
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Environmental factors may interact with different genetic backgrounds to impact skin aging. In this study, we (i) compared ethnic differences in skin aging between Chinese and German women and (ii) explored environmental factors in both populations. Chinese and German women 65-90 years old were recruited and skin aging was assessed by the SCINEXA®. In adjusted regression analysis, we found that wrinkles under eyes (p<0.001) and on cheeks (p<0.001) were more pronounced in Chinese; while wrinkles on forehead (p=0.02) and arms (p=0.02) were less pronounced in Chinese. The most common comorbidities were Diabetes mellitus (DM) and chronic venous insufficiency (CIV). The most common areas where patients experienced itch were: legs (54%), back (45%), scalp (28%) and arms (27%). Patients reported experiencing the greatest amount of itch in the winter (27%) and during the night (65%). Conclusion: Chronic itch is a common problem in Hispanic geriatric population, with significant associations to dry skin, DM and CIV.

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Ethnic differences and environmental factors in skin aging
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Recent data suggest that nevi in children are dynamic, frequently manifesting changes which while not life threatening raise a possibility that there might be an important environmental trigger for this disease. However, to date no unequivocal environmental hotspots have been documented for this cancer. We analyzed by region, zip code, age and eth-}

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Longitudinally followed nevi in children and adolescents show significant size changes
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While change in size is a recognized feature of melanoma, change in nevus size during childhood and adolescence is a part of normal growth. The objective of this study was to quantify the spectrum of size changes among existing and new nevi during childhood, stratified by dermoscopic pattern. The study included a cohort of children and adolescents, whose nevi were longitudi-}

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Feasibility, validity, and reliability of pediatric pruritus-specific outcome measures
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Further development of pruritus-specific patient reported outcomes include two age-appropriate quality of life questionnaires: a cartoon version for ages 4-7 (TotallyItchyQol) and a text version for ages 8-17 (TotallyItchyQol). A cartoon-enhanced numeric rating severity scale (ItchyQuant) was also developed for pediatric use and for adults who may not be able to utilize the usual visual analog scale (VAS). In this study, we examined the reliability and feasibility of the pediatric ItchyQol and ItchyQuant. Children with chronic itch (ITQ3) were approached in dermatology clinic, considering the most common areas where patients experienced itch were: legs (54%), back (45%), scalp (28%) and arms (27%). Patients reported experiencing the greatest amount of itch in the winter (27%) and during the night (65%). Conclusion: Chronic itch is a common problem in Hispanic geriatric population, with significant associations to dry skin, DM and CIV.

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Ethnic differences and environmental factors in skin aging
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Environmental factors may interact with different genetic backgrounds to impact skin aging. In this study, we (i) compared ethnic differences in skin aging between Chinese and German women and (ii) explored environmental factors in both populations. Chinese and German women 65-90 years old were recruited and skin aging was assessed by the SCINEXA®. In adjusted regression analysis, we found that wrinkles under eyes (p<0.001), on upper lips (p<0.001) as well as laxity of eyelids (p<0.025) and cheeks (p<0.001) were more pronounced in Chinese; while wrinkles on forehead (p=0.02) and arms (p=0.02) were less pronounced in Chinese. The most common comorbidities were Diabetes mellitus (DM) and chronic venous insufficiency (CIV). The most common areas where patients experienced itch were: legs (54%), back (45%), scalp (28%) and arms (27%). Patients reported experiencing the greatest amount of itch in the winter (27%) and during the night (65%). Conclusion: Chronic itch is a common problem in Hispanic geriatric population, with significant associations to dry skin, DM and CIV.
305 Adiponectin deficiency may cause decreased ATP synthesis and lower pH, leading to abnormal muscle contraction and skin sensitivity in sensitive skin

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Background: Adiponectin (ADIPOQ) was significantly down-regulated in sensitive skin, and knockdown of ADIPOQ in RD cells could recapitulate the aforementioned gene signature and physiologic alterations in sensitive skin, compared with non-sensitive skin. Interestingly, we also found that an adiponectin (ADIPOQ) deficient mouse may play a critical role in the development of sensitive skin.

Cox regression analysis revealed that genes involved in muscle contraction, carbohydrate and lipid metabolism, and ion transport and channel activity were significantly increased in RD cells with sensitive skin, compared with non-sensitive skin. Interestingly, we also found that an adiponectin (ADIPOQ) deficient mouse may play a critical role in the development of sensitive skin.

306 The epidermal biology of concomitant hidradenitis suppurativa and psoriasis: Experience of a tertiary care center

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Hidradenitis suppurativa (HS) and psoriasis (Ps) are chronic disorders in which common inflammatory pathways including IL-12, B-23, and TNF-a have been implicated. Currently, limited data exists on the cooccurrence of these two conditions; therefore we sought to describe the characteristics of individuals with concomitant HS and Ps, seen at a tertiary care center. We conducted a retrospective analysis of all medical records within the Research Patient Data Repository. We identified 56 individuals with the diagnosis of both HS and Ps, and 56 controls matched for gender, age, and race. The mean BMI for patients with both HS and Ps was 14.1, compared to 21.7 in the control group (p < 0.001). Hypertension was diagnosed in HS and Ps compared to 7.7% of the controls (p = 0.02). Additionally, 14.3% of patients with both HS and Ps had inflammatory bowel disease with a higher risk of melanoma (HR: 1.40, 95% CI: 1.04-1.89) and 1.4% of patients with both HS and Ps were current smokers, compared to 13.1% of the controls (p < 0.001). Notably, we found that 40.4% of individuals with both HS and Ps had been diagnosed with and/or treated for depression compared to 19.0% of the controls (p = 0.007). The proportion of individuals with a history of NMSC have an increased risk of fractures in a prospective cohort study of 73,645 women from the Women’s Health Initiative. We followed 8,429 women with NMSC and 67,407 without history of NMSC for 10 years for new hip, spine, and lower arm fractures. Women with HS and Ps had bone marrow density scans, and hip fracture rates were 5.2/10,000 person-years (95% CI: 4.0, 7.0) and 0.9/10,000 person-years (95% CI: 0.5, 1.5), respectively. A subset of women (N = 4,267) had bone marrow density (BMD) scans, and there was no association between history of NMSC and hip BMD at baseline. These results suggest that prior history of NMSC is associated with an increased risk of subsequent bone fracture, contrary to our hypothesis. Increased fracture risk may be secondary to sun avoidance after NMSC diagnosis.

307 Sildenafil use and increased risk of incident melanoma in US men: A prospective cohort study

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Background: Sildenafil (Viagra) is a phosphodiesterase (PDE) 5A inhibitor commonly used for erectile dysfunction. Recent studies have shown that PDE5A expression is reduced in melanoma cells, which raises the possible adverse effect of sildenafil on melanoma risk. Objective: To evaluate the association between sildenafil use and risk of incident melanoma among men in the US in a prospective cohort study. Methods: In 2000, participants in the Health Professionals Follow-Up Study were mailed a questionnaire recording lifetime history of fracture, smoking, exercise, and supplement use. Participants were followed up through December 2010. For each participant, the fraction of time during which they were using sildenafil was calculated. Results: We identified 142 melanomas, 580 SCC, and 3,010 BCC cases during the follow-up (2000–2010). Sildenafil use at baseline was significantly associated with an increased risk of melanoma and non-melanoma skin cancers (NMSC). Sildenafil use at baseline was a significant risk factor for skin cancer (HR = 1.40, 95% CI: 1.14-1.72). A secondary analysis which excluded those reporting major chronic diseases at baseline did not appreciably change the findings; the HR (95% CI) of melanoma was 2.24 (1.05-4.76) for sildenafil use at baseline and 2.77 (1.32-5.85) for sildenafil ever use. Conclusions: Sildenafil use may be secondary to sun avoidance after NMSC diagnosis.

308 Non-melanoma skin cancer is associated with increased risk of fractures

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Patients with NMSC have been shown to have lower vitamin D levels due to sun avoidance and skin cancer. We hypothesized that vitamin D deficiency could lead to fractures. We assessed whether postmenopausal women with a history of NMSC have an increased risk of fractures in a prospective cohort study of 73,645 women from the Women’s Health Initiative. We followed 4,289 women with NMSC and 67,407 without history of NMSC for 10 years for new hip, spine, and lower arm fractures. Women with HS and Ps had bone marrow density scans, and hip fracture rates were 5.2/10,000 person-years (95% CI: 4.0, 7.0) and 0.9/10,000 person-years (95% CI: 0.5, 1.5), respectively. A subset of women (N = 4,267) had bone marrow density (BMD) scans, and there was no association between history of NMSC and hip BMD at baseline. These results suggest that prior history of NMSC is associated with an increased risk of subsequent bone fracture, contrary to our hypothesis. Increased fracture risk may be secondary to sun avoidance after NMSC diagnosis.

309 Cell-based therapy for skin aging: a diagnostic and therapy approach to predict melanoma risk in aging

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The objective of this study was to examine the relationship of melanoma-specific mortality with pre-diagnosis health care utilization and preventive care compliance in a large health maintenance organization (HMO), where all enrollees would have presumptive opportunity and equal access for care. A retrospective observational cohort of individuals from 2001-2007 was identified using the electronic HMO administrative databases, including information on patient demographics, US Census socioeconomic estimates, and healthcare utilization. Cutaneous malignant melanoma diagnosis and vital status were ascertained from the HMO Tumor Registry and the corresponding SEER Registry. Multivariate Cox regression estimates were calculated. 251 patients were identified with a mean age of 60.6 years. The majority of patients were white (96%), male (63%), and had bone marrow density scans, and hip fracture rates were 5.2/10,000 person-years (95% CI: 4.0, 7.0) and 0.9/10,000 person-years (95% CI: 0.5, 1.5), respectively. A subset of women (N = 4,267) had bone marrow density (BMD) scans, and there was no association between history of NMSC and hip BMD at baseline. These results suggest that prior history of NMSC is associated with an increased risk of subsequent bone fracture, contrary to our hypothesis. Increased fracture risk may be secondary to sun avoidance after NMSC diagnosis.

310 Adults with previous nonmelanoma skin cancer still suffer from sunburn despite improve-ments in sun-protection practices

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Previous nonmelanoma skin cancer (NMSC) is highly associated with increased risk of subsequent skin cancer. Thus, it is important for adults with previous NMSC to limit UV radiation (e.g., sun exposure), a known risk factor for NMSC. However, it is unclear whether individuals with a history of NMSC engage in better sun protection compared to those with no skin cancer history. We used self-reported data from US non-Hispanic white adults from the 2000, 2005, and 2010 Centers for Disease Control and Prevention (CDC) National Health Interview Surveys (5466) reporting no history of skin cancer, 1099 reporting previous NMSC. We calculated odds ratios (OR) and 95% confidence intervals (95% CI) using logistic regression, taking into account the complex survey design and controlling for age, sex, geographic region, skin type, education, and family history of skin cancer. We found that subjects with previous NMSC were significantly more likely than subjects with no history of skin cancer to apply sunscreen (OR=2.26, 95%CI=1.8-2.7; p<0.0001), wear long sleeves (OR=1.45; 95%CI=1.23-1.70; p<0.0001), and wear a wide-brimmed hat (OR=1.70; 95%CI=1.45-1.98; p<0.0001) on a warm sunny day. However, previous NMSC was not signifi-cantly associated with a decrease in recent sunburn (OR=0.91; 95%CI=0.75-1.10; p=0.32). Among subjects with previous NMSC, 30% reported recent sunburn. This subgroup was more likely than subjects without recent sunburn to be male (OR=1.57; 95%CI=1.10-2.23; p=0.01) and younger (OR=2.29; 95%CI=1.53-3.38; p<0.0001). Conclusions: Subjects with previous NMSC report more consistent sun-protec-tion practices, suggesting that they understand the benefits of UV protection. However, a substantial percentage of these individuals still report recent sunburn, especially among men and younger subjects. Further investigation is needed in those with previous NMSC, on proper methods of sun protection to minimize UV exposure.
313 Development of a geographically-adjusted tool to more accurately estimate self-reported cumulative ultraviolet exposure: A two-part study

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Accurate estimation of cumulative lifetime ultraviolet (UV) exposure is critical as it is a major risk factor for cutaneous cancers and diseases. However, current survey methods of self-reporting lifetime UV exposure rely on recall of time outdoors without accounting for differences in ambient UV irradiance levels in different locales. The purpose of this study was to pilot a method to incorporate geographic-specific ambient UV indices into current methods of estimating lifetime sun exposure. The first part of this study was development of a 21-item survey instrument enabling incorporation of available geographic-specific UV indices. In the United States, 72% of the study participants self-reported spending ≥50% of their lives in California compared to those who did not, mean UV Index Units = 5.77 (0.14) vs. 5.19 (0.01), p = 0.001. This tool can be applied to states other than California, and may be highly useful in research to more accurately account for cumulative lifetime sun exposure, a critical element for clinical research in skin diseases associated with ultraviolet exposure.

314 Lupus patients with cutaneous hypersensitivity to hydroxychloroquine may tolerate chloroquine

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The aminalarals hydroxychloroquine (HCQ) and chloroquine (CQ) are first-line therapy for systemic lupus erythematosus (SLE) and SLE. CQ is generally used initially, with CQ reserved for patients who fail to tolerate or improve with HCQ. Roughly 10% of patients develop a cutaneous hypersensitivity reaction to HCQ. No study evaluates the potential of cross-reaction with CQ in SLE/CLE patients who react to HCQ. Using retrospective chart review from the Partners Healthcare Research Patient Data Registry, we identified 5 SLE/CLE patients with hypersensitivity to HCQ who subsequently tolerated CQ. Patients were aged 20-58 years old, 4 were female and 1 male, and all had SLE and/or CLE. Three patients developed a morbilliform eruption 3-4 weeks into therapy with HCQ, 1 patient developed a morbilliform eruption after 3 months of HCQ therapy, and 1 patient developed a pruritic eruption 32 months after initiation of HCQ. All cutaneous eruptions resolved with discontinuation of HCQ. The patient who developed a reaction 12 months into therapy was re-challenged with HCQ with recurrence of the pruritic eruption. All 5 patients tolerated transition to CQ without evidence of a hypersensitivity reaction. One patient discontinued CQ after 6 weeks due to potential drug interaction, and another after 4 weeks due to nausea. The additional 3 patients have remained on CQ for a range of 4-22 months. Importantly, no patient identified in this review who developed a cutaneous hypersensitivity eruption to HCQ and transitioned to CQ went on to develop a similar reaction to CQ. This review supports the notion that CQ can be tolerated in lupus patients who develop hypersensitivity to HCQ, an important finding given the benefits of antimalarial therapy in patients with lupus, and the lack of alternative medications with analogous effects and comparable low side-effect profiles. Further studies are necessary to elucidate these findings.

315 Dermoscopic patterns of nevi have a distinct anatomical distribution in adolescents

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Nevi with a reticular versus globular dermoscopic pattern are hypothesized to represent distinct biologic subsets of nevi that differ in etiology, anatomic distribution, and association with sun exposure and phenotype. The purpose of this study was to describe the prevalence of dermoscopic patterns of nevi on the legs and backs of adolescents and to investigate the relationship between phenotypic characteristics and dermoscopic pattern. Overview and dermoscopic images of nevi were obtained from the back and legs of 213 9th graders (mean age 14.9 yrs). Nevi were classified as reticular, globular, homogenous (neither reticulation nor globules were present) or complex (both network and globules were observed). Compared to homogeneous lesions, globular nevi were more commonly observed on the back than the legs (OR=4.9, 95% CI 2.4-9.9), while reticular nevi were less likely to be observed on the back (the OR=0.7, 95% CI 0.5-0.9). Patients with darker phenotypes were more likely to have reticular and complex lesions when compared to lighter phenotypes (OR=1.5, 95% CI 1.1-2.0; OR=1.1, 95% CI 1.8-3.4). Based on our results, we conclude that the dermoscopic patterns of nevi correlate with anatomic location in adolescents. More specifically, globular nevi have a cephalad to caudal distribution, which happens to recapitulate the pattern of melanoblast migration during embryogenesis. In contrast, the predominant pattern of nevi on the legs is reticular. These data suggest that globular and reticular nevi represent distinct subsets of nevi with different causal pathways and associations with sun exposure and phenotype.

This in turn may help inform us about the pathways of melanogenesis.

316 Patterns of dermatological changes due to chemotherapy and its impact on quality of life among breast cancer patients

J. Kong,1 J. Cho,1 J. E. Choi,2 J. Kim,2 D. Lee,3 W. Gil,4 J. Lee4 and S. Nam4

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Chemotherapy regimens included epirubicin, Cyclophosphamide, and 5-Fluorouracil) and its impact on quality of life among breast cancer patients. This is a prospective cohort study with 81 breast cancer patients. Dryness and pigmentation were assessed using Dermatology Life Quality Index (DLQI) and EORTC-QLQ C 30. Results: Patients were female, mean age 53.6 ± 11.2 years, 1 male, and all had SLE and/or CLE. Three patients developed a morbilliform eruption 3-4 weeks into therapy with HCQ, 1 patient developed a morbilliform eruption after 3 months of HCQ therapy, and 1 patient developed a pruritic eruption 32 months after initiation of HCQ. All cutaneous eruptions resolved with discontinuation of HCQ. The patient who developed a reaction 12 months into therapy was re-challenged with HCQ with recurrence of the pruritic eruption. All 5 patients tolerated transition to CQ without evidence of a hypersensitivity reaction. One patient discontinued CQ after 6 weeks due to potential drug interaction, and another after 4 weeks due to nausea. The additional 3 patients have remained on CQ for a range of 4-22 months. Importantly, no patient identified in this review who developed a cutaneous hypersensitivity eruption to HCQ and transitioned to CQ went on to develop a similar reaction to CQ. This review supports the notion that CQ can be tolerated in lupus patients who develop hypersensitivity to HCQ, an important finding given the benefits of antimalarial therapy in patients with lupus, and the lack of alternative medications with analogous effects and comparable low side-effect profiles. Further studies are necessary to elucidate these findings.

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Development and validation of chemotherapy-induced dermatology distress scale

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Background: Although skin problems among cancer patients were usually perceived as minor complaints by health professionals, patients reported distress and difficulties due to chemotherapy-induced skin changes such as dryness and pigmentation. However, few studies investigated this issue, and no validated instrument to assess chemotherapy-induced dermatology distress existed. The aim of this study was to develop and validated a psychometric scale for assessing the distress that cancer patients experience due to chemotherapy-induced skin changes. Methods: Twenty-five items in 5 domains was developed for assessing chemotherapy-induced dermatology distress based on a qualitative study. To extract factor structure and evaluate construct validity, a cross-sectional survey was conducted with 145 Korean women with breast cancer and exploratory and confirmatory factor analysis were performed. Results: Exploratory factor analysis indicated that 10 items from the domains of skin dryness and color change reported significant higher CDDS scores compared to people without skin changes. The CDDS was moderately correlated with body image (r=−0.67, P<0.001), overall quality of life (r=−0.40, P<0.001), and self-esteem (r=−0.37, P<0.001). The CDDS is a reliable and valid tool for measuring distress of chemotherapy-induced skin change. The CDDS would help health professionals to assess and monitor distress that cancer patients could experience due to chemotherapy-induced skin changes.

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Increased risk of incident depression in psoriasis patients

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An association between psoriasis and mental health disorders has long been suspected. Recent clinical studies have described links between psoriasis and depression. In this prospective study, we investigated the risk of incident depression among individuals with psoriasis. The study population consisted of two separate longitudinal cohorts, including 50,750 US female nurses in the Nurses Health Study I (NHS I) (mean age 56.5 years) and 18,074 persons examined in the Health Professionals Follow-Up Study (HPFS) (mean age ~67 years), who were free of depression at baseline. Participants had reported whether they had ever been diagnosed as having psoriasis. We defined depression as self-report of diagnosis of depression and regular use of antidepressant medication. Baseline year was the first year participants reported whether they had ever had a diagnosis of depression, and those with self-report of depression or use of antidepressant medication were excluded. In NHS, those with Mental Health Index score ≥52 were also excluded. Among individuals with psoriasis, in NHS there were 58 incident cases of depression across 1969 person-years (PYs) of follow-up from 2000-2008. There were 46 incident cases over 4381 PYs in the HPFS from 2002-2008. We found an increased multivariate relative risk (RR) of depression of 1.33 (95% confidence interval [CI]: 1.02–1.75) in NHS and 1.22 (95% CI: 0.96, 1.54) for HPFS. This study supports an increased incident risk of depression among US women and men with psoriasis.

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Healthcare utilization and cost in US adults with eczema

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Little is known about the public health burden of adult eczema in the US. The goal of this study was to determine the out-of-pocket costs, healthcare access and utilization in adult eczema in the US. We used the 2010 National Health Interview Survey from a nationally representative sample of 27,157 adults age 18–65 years. Adults with eczema and eczema with asthma and/or hay fever (EAH) had $1,497 and $1,800 per person-year compared with $1,198 in those without eczema. Adults with eczema and EAH were significantly more likely to have ≥6 workdays (survey multinomial logistic regression; adjusted odds ratio [95% confidence interval] for eczema: 1.48 [1.19–1.84]; EAH: 1.78 [1.34–2.36] and 3.5 eczema: 1.49 [1.21–1.81]; EAH: 2.08 [1.53–2.76]) and ≥6 days (survey multinomial logistic regression; adjusted odds ratio [95% confidence interval] for eczema: 1.24 [1.80]; EAH: 2.50 [1.98–3.14]) and having delayed care (eczema: 1.45 [1.22–1.71]; EAH: 2.07 [1.63–2.62]) and not being able to get care (eczema: 1.34 [1.11–1.62]; EAH: 2.24 [1.70–2.94]) because of worry about the related costs. This study provides US populations. Conclusions: Our study confirmed that the CDDS is a reliable and valid tool for measuring distress of chemotherapy-induced skin change. The CDDS would help health professionals to assess and monitor distress that cancer patients could experience due to chemotherapy-induced skin changes.

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Existing self-report tools are not suitable for measuring adherence to topical therapies in psoriasis

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To date, there are no validated instruments to measure adherence to topical therapies in psoriasis. The aim was to determine the out-of-pocket costs, healthcare access and utilization in adult eczema in the US. We used the 2010 National Health Interview Survey from a nationally representative sample of 27,157 adults age 18–65 years. Adults with eczema and eczema with asthma and/or hay fever (EAH) had $1,497 and $1,800 per person-year compared with $1,198 in those without eczema. Adults with eczema and EAH were significantly more likely to have ≥6 workdays (survey multinomial logistic regression; adjusted odds ratio [95% confidence interval] for eczema: 1.48 [1.19–1.84]; EAH: 1.78 [1.34–2.36] and 3.5 eczema: 1.49 [1.21–1.81]; EAH: 2.08 [1.53–2.76]) and ≥6 days (survey multinomial logistic regression; adjusted odds ratio [95% confidence interval] for eczema: 1.24 [1.80]; EAH: 2.50 [1.98–3.14]) and having delayed care (eczema: 1.45 [1.22–1.71]; EAH: 2.07 [1.63–2.62]) and not being able to get care (eczema: 1.34 [1.11–1.62]; EAH: 2.24 [1.70–2.94]) because of worry about the related costs. This study provides US populations. Conclusions: Our study confirmed that the CDDS is a reliable and valid tool for measuring distress of chemotherapy-induced skin change. The CDDS would help health professionals to assess and monitor distress that cancer patients could experience due to chemotherapy-induced skin changes.

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Melanoma thickness and survival trends in the United States, 1989 to 2009

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With melanoma incidence rising and mortality stable some question whether the melanoma epidemic has passed. We investigated thickness and survival trends in invasive melanomas from 1989 to 2009. From the SEER-9 registries, 98,498 cases were identified of which 13% had missing thickness. We conducted an analysis of invasive melanomas in the SEER-9 registries from 1989 to 2009 with a validated multiple imputation method for missing thickness. Upon imputation, median thickness decreased from 0.73 to 0.58 mm and 5-year survival increased from 88 to 91%. Geometric mean thickness decreased from 1.14 to 0.99 mm. Among individuals with melanoma, in NHSI, there were 58 incident cases of depression across 1969 person-years (PYs) of follow-up from 2000-2008. There were 46 incident cases over 4381 PYs in the HPFS from 2002-2008. We found an increased multivariate relative risk (RR) of depression of 1.33 (95% confidence interval [CI]: 1.02–1.75) in NHS and 1.22 (95% CI: 0.96, 1.54) for HPFS. This study supports an increased incident risk of depression among US women and men with psoriasis.

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No treatment disparity in underinsured patients undergoing Mohs micrographic surgery for non-melanoma skin cancer at a single center

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This study assessed patient, tumor and treatment characteristics of an underinsured population referred to Mohs micrographic surgery (MMS) for non-melanoma skin cancer (NMSC) at a single university-affiliated academic MHS center. A retrospective chart review was conducted of all 245 records between Jan 2011-Dec 2012. Controls were chosen as all insured patients who underwent MMS on the same day as any underinsured patient. Underinsured patients were categorized based on having no insurance, limited income-based insurance provided by the hospital or Medicaid. Analyses were conducted with χ2 and t tests. There were 162 underinsured patients with 62 lesions and 159 insured patients with 385 lesions were included. The number of patients presenting with multiple tumors was not statistically different between the groups (p=0.09). The study population consisted of two separate longitudinal cohorts, including 50,750 US female nurses in the Nurses Health Study I (NHS I) (mean age 56.5 years) and 18,074 persons examined in the Health Professionals Follow-Up Study (HPFS) (mean age ~67 years), who were free of depression at baseline. Participants had reported whether they had ever been diagnosed as having psoriasis. We defined depression as self-report of diagnosis of depression and regular use of antidepressant medication. Baseline year was the first year participants reported whether they had ever had a diagnosis of depression, and those with self-report of depression or use of antidepressant medication were excluded. In NHS, those with Mental Health Index score ≥52 were also excluded. Among individuals with psoriasis, in NHS there were 58 incident cases of depression across 1969 person-years (PYs) of follow-up from 2000-2008. There were 46 incident cases over 4381 PYs in the HPFS from 2002-2008. We found an increased multivariate relative risk (RR) of depression of 1.33 (95% confidence interval [CI]: 1.02–1.75) in NHS and 1.22 (95% CI: 0.96, 1.54) for HPFS. This study supports an increased incident risk of depression among US women and men with psoriasis.

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Epidemiology & Health Services Research | ABSTRACTS
323 An analysis of personality styles and coping behaviors in chronic pruritus
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There is increasing interest in how the five main personality factors—neuroticism, agreeableness, conscientiousness, openness and extraversion—mediate coping behaviors in chronic illness. We seek to explore how the 10 personality styles, conceptualized by the intersection of each personality factor (e.g. neuroticism vs. conscientiousness) yields style of impulse control: moderate greater reported quality of life impact in chronic pruritus. Although the influence of chronic pruritus > 6 weeks were recruited through the National Eczema Association or from a stratified random sample from the US Veterans National Patient Care Database. Subjects completed validated questionnaires to assess the impact of their personality (Eysenck Personality Inventory and NEO-Five Factor Inventory). Multivariate regression analysis was performed to determine which personality styles were associated with greater total mean ItchYQL score (more impact) as well as symptom (os), emotion (em), and function (fx) subscale scores at the 0.05 significance level. The 481 subjects were divided into 17% female and had a mean itch duration of 25 weeks. The 'Lithargic' personality style (low extraversion, low conscientiousness) was associated with greater mean total itchYQL score. (11.65 ± 0.04) and tendencies to be associated with greater os subscale scores (3.71 ± 0.01). Those with the lowest personality style were associated with greater mean total itchYQL score (7.72 ± 0.04) and tendencies to be associated with greater os subscale scores (3.3 ± 0.01). The data supported that there are distinct personality styles that may be implicated in how patients perceive, report, and cope with chronic pruritus which if addressed, may have the potential to significantly impact burden of disease.

324 Teledermatology programs in the veterans health administration
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The Veterans Health Administration (VHA) is likely the largest teledermatology provider in the US. We describe the teledermatology activity in the VHA using routinely collected administrative data. In fiscal year 2013, the VHA recorded 858,028 teledermatology encounters, of which 6%, or 53,192, were teledermatology encounters. This represents 25% of all teledermatology visits (n=213,772) recorded by the VHA since 2002, indicative of the rapid growth of the program. The VHA is divided into 22 geographical regions called Veterans Integrated Services Networks (VISNs), 20 of which used telemedicine in FY 2013. Two modes of telemedicine are used: Clinical Video Telehealth (CVT, or live video conferencing), in 7 VISNs, and Store and Forward Telehealth (SFT), in 20 VISNs. 96% of teledermatology encounters (50,863) in fiscal year 2013 were SFT, for the time period 2002-2013, 74% of teledermatology encounters (158,805) were SVF. Fiscal years 2012 to 2013 also showed decreased use of CVT and increased use of SFT. The Northwest VISN, serving Idaho, Oregon, Washington and Alaska, and Sunshine VISN, serving Florida, Puerto Rico, and the Virgin Islands, reported the highest number of encounters in the nation, each with 15% of the total. Nationally, 66% of the 2013 SFT encounters were performed within 7 days of referral, 80% were performed within 30 days. 55% of encounters were for patients living in urban areas (as defined by the U.S. Census), versus 42% in rural and 2% in highly rural defined as ≥7 civilians per square mile) – the latter used only SFT. This report is limited by potential coding, and the entry points and these administrative reporting may lead to underestimation of encounters as well as overestimation of time to consult completion. VHA is a leader in the United States in using teledermatology to increase access to dermatology services for patients. It is transforming the mode of delivery of dermatology services to veterans as its use of teledermatology grows.

325 Treatment recommendations for melanocytic lesions vary among pathologists
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Therapeutic guidance by pathologists may influence the care of patients with melanocytic lesions. We examined the relationship between pathologist-level characteristics and treatment recommendations from surveys of US pathologists to obtain individual professional experiences. Each was asked to provide treatment recommendations for the following: dysplastic nevi (mild, moderate, severe), Spitz nevi (typical and atypical), melanocytic tumors of uncertain malignant potential (MELTUMP), melanoma in situ (MiS), and invasive malignant melanoma (MM). We assessed associations between pathologist characteristics and treatment recommendations with appropriate statistical testing. Sixty-eight surveys have been completed. Pathologists with dermatopathology training (p<0.001) and dermatopathology board certification (p<0.001) were more likely to recommend treatment for mildly dysplastic nevi, while full-time academic appointment (p<0.01) and high monthly caseload of melanocytic lesions (p<0.02) were associated with aggressive therapeutic recommendations for moderately dysplastic nevi. For typical Spitz nevi, those requesting second opinions/month were more likely to recommend treatment. The latter was also significantly associated with aggressive therapy for MELTUMP (p<0.03). Twenty-seven pathologists made recommendations that differ from national guidelines for MM, while 6 pathologists made recommendations that differed from national guidelines for MiS. Those requesting second opinions/month were more likely to recommend treatment for MM (RR 1.5), although this did not reach statistical significance. Treatment recommendations by pathologists exhibit large variations across pathologist-level factors. Efforts to reduce this variability should be a priority for quality improvement initiatives in dermatology.

326 Subjective component of SCORAD provides unique information when assessing atopic dermatitis
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Atopic Dermitis index (SCORAD) is a frequently used, validated tool for measuring AD severity. Total SCORAD consists of objective SCORAD (OS, extent and severity of AD) and subjective SCORAD (SS, pruritus and sleep loss). Use of OS alone is recommended because SS is affected by factors other than AD. MM (95% CI: 10.01,17.76), 11.07 (95% CI: 7.99,15.14), respectively. Ten year survival was greatest for Whites, followed by Hispanic, Blacks, and American Indians/Alaskan Natives/Asian/Pacific Islanders (p=1.12e-05). Similarly those personality styles with high neuroticism, “Overcontrolled” (high neuroticism and low conscientiousness; 2.76, p=0.01) and “Undercontrolled” (high neuroticism, low conscientiousness; 2.14, p=0.03) were associated with greater os subscale scores. Interestingly, no personality styles were associated with greater os subscale scores. This data supported that there are distinct personality styles that may be implicated in how patients perceive, report, and cope with chronic pruritus which if addressed, may have the potential to significantly impact burden of disease.

327 Variations in incidence and survival of cutaneous melanoma by race in the united states
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Cutaneous melanoma is an aggressive form of skin cancer with high incidence rates in the US. It is a commonly diagnosed cancer among men and women. Melanoma incidence rates by race, with Whites predominating, followed by Hispanics, American Indians/Alaskan Natives/Asian/Pacific Islanders, and Blacks, respectively. To determine whether disparities existed, survival was stratified by race. Data was acquired from the National Cancer Institute Surveillance, Epidemiology, and End Results (SEER) Program. Data from 1973-2009 was compiled and the Kaplan-Meier method was used to calculate survival for cohorts by race, and race stratified by stage at presentation. White patients presented with the highest percentage (75.97%) of Stage I (95% CI: 73.62,77.31). Black patients presented with 56.6% of Stage I (95% CI: 54.57,58.7). Multivariate analysis highlighted survival differences. The former was associated with greater survival compared to the latter (HR 2.06, p=0.01). Those 60 years and older were more likely to make correct treatment recommendations for MM (RR 1.47), while 6 pathologists made recommendations that differ from national guidelines for MM. Those 60 years and older were more likely to make correct treatment recommendations for MM (RR 1.5), although this did not reach statistical significance. Treatment recommendations by pathologists exhibit large variations across pathologist-level factors. Efforts to reduce this variability should be a priority for quality improvement initiatives in dermatology.

328 Rosacea has an increased association with skin cancer
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The relationship between rosacea and skin cancer is unclear with no reported studies since the classification of rosacea in 2002. Questionnaires were distributed to a voluntary cohort of twins at the 2012 and 2013 annual Twinsdays Festival. The survey included each participant’s age, gender, ethnicity, Fitzpatrick skin type, sun exposure history by age and geographic location, and skin cancer history. Initial data were collected from 2003-2004, with follow-ups in 2006 and 2007. The data was analyzed using Cox proportion hazard regression. The incidence of melanoma and cutaneous squamous cell carcinoma (CSCC) was significantly higher among those with rosacea (HR 2.15, 95% CI: 1.05,4.37) compared to those without rosacea (HR 1.00, 95% CI: 0.92,1.09). After excluding individuals under the age of 50, participants were divided into a rosacea and a rosacea-free group. An increased number of skin cancers were identified among the rosacea group (19.15%) as compared to the control group (2.32%). Multivariate analysis demonstrated an odds ratio of 12 (p = 0.02) for skin cancer development among rosacea cases as compared to controls. Clinical practitioners should consider skin cancer screening among rosacea patients as it may represent a potential risk factor.
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**Smoking increases the of CLASI in subjects with moderate to severe systemic lupus Erythematosus**

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The goal of the study was to evaluate the influence of smoking on the severity of cutaneous manifestations of SLE. With moderate-to-severe systemic lupus erythematosus (SLE) in 431 patients, we assessed the influence of smoking on the severity of cutaneous manifestations of SLE. In this ongoing international multi-center double-blind randomized placebo-controlled trial in adult SLE (94.2% female, median disease duration 6.3 years, 59% white, 37% Hispanic, median age of 40 years old, mean SLEDAI 11.3, with 84.7%, smoking status was known, or missing smoking status was unknown). Subjects with moderate-to-severe systemic lupus erythematosus and current smokers were retested for smoking status according to the cutaneous manifestations of SLE (CLASI ≥426), SLEDAI, BILAG at baseline on smoking history at screening. The non-smoking status was consistent across geographic areas, races, ethnicities and SLE medications at baseline. These results show that current smokers with lupus have worse skin involvement than non-smokers. Smoking cessation should be emphasized in the management of SLE with cutaneous manifestations.

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**Severe atopic dermatitis in an African-American pediatric cohort is associated with a filaggrin low intragenic copy number variant**

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The prevalence of atopic dermatitis (AD) is higher in African-American (AA) children with a strong family history of atopic dermatitis. However, the genetics underlying AA AD are unknown. We examined the AD clinical phenotype and the role of filaggrin (FLG) genetic variants in pediatric AA cohort as measured by disease severity (SCORAD) and genotyping methods.

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**Association of melanoma incidence with biopsy and excision rates, 2008-2010**

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Prior research has demonstrated a parallel pattern of increasing melanoma incidence and skin biopsy and excision rates across calendar time, age, sex, race, and area of residence. Age-adjusted melanoma incidence increased by about 31% per year from 2001-2007 to 2008-2010. Prior research suggests that the increasing rate of in situ melanoma may reflect increased contact with the skin biopsy and excision also increased by about 10%. Incidence of invasive melanoma in women was 18.8, and in men was 13.5. Over this 3-year period, incidence of invasive melanoma increased with increasing age for men, but for women it was highest at age 75-84 than the other age groups. Men had 65% and 67% higher incidence of invasive and in situ melanoma, and a 60% higher rate of biopsies and excisions than women. For the 10 states covered by SEER registries, the correlations of invasive melanoma incidence to biopsy and excision rates were 0.67 and 0.70, respectively. Smoking cessation should be emphasized in the management of SLE with cutaneous manifestations.

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**Assessment of preferences and need for a psoriasis patient decision aid**

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The recent expansion of treatment options for the common skin disease, psoriasis, will likely lead to greater collaboration between patients and healthcare practitioners in the decision-making process. While a paper-based Psoriasis PDA currently input from all interested stakeholders. While a paper-based Psoriasis PDA currently

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**Methylisothiazolinone (MI), a new and frequent contact allergen: Relevance and outcomes from clinical practice**

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The purpose of this study was to determine the prevalence, co-occurrence patterns, and outcomes of patients patch tested with methylisothiazolinone (MI) and methylchloroisothizolinone/methylisothiazolinone (MI/MI). MI/MI as part of our standard patch test series. A retrospective chart review was conducted of patients patch tested with MI and MI/MI in 2012 and 2013 according to methods of the North American Contact Dermatitis Group. Demographic data, exposures, and outcomes were recorded for patients with positive reactions. During this time, 182 patients were patch tested. Contact allergy to MI and/or MI/MI occurred in 34 (18.9%), with 17 reactions to MI only, 1 reaction to MI/MI only, and 16 reactions to both. Most were female (73%); average age was 47 years. Average duration of dermatitis before patch testing was 10 months and most patients (60%) had a history of atopy. Most commonly affected sites were hands (n=13), face (n=11), and generalized (n=10). Contact allergy was occupational in four cases; three were hairdressers using shampoos containing MI and a fourth was a daycare worker utilizing MI-containing wet wipes. Relevance of MI to the dermatology practice was high. MI/MI reactions were more intense than MI reactions and MI/MI reactions were more intense than MI reactions. MI/MI contact allergy was primary among the three types of contact allergy (MI = 431, mostly cleared (n=5), and partially cleared (n=1). The high prevalence of contact allergy to MI supports its addition to standard patch test series to identify cases missed by testing with only MI/MI. Intervention is needed to reduce the number of products containing these preservatives.
335 Presence of dermal atypia in malignant melanoma in situ: effect on management and outcome

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Malignant melanoma (MM) is one of the deadliest forms of skin cancer, having a high metastatic potential and affecting all age groups. The onus to detect melanoma is vital to ensure curative stage disease. Clinical practice guidelines recommend excision with at least 0.5 cm margins for MM in situ (MMIS). We performed a retrospective review of 1,930 cases from 2004 to 2018 to assess the impact of dermal atypia on both clinical practice and treatment outcomes. Dermal atypia was noted in 57% of cases, and was associated with an increase in recurrence rate from 3.1% in those without atypia to 8.3% in those with atypia (p < 0.001). Importantly, 5-year survival rate was lower in those with dermal atypia compared to those without (96.4% vs. 98.6%, p = 0.003). These findings highlight the need for improved diagnostic tools and risk stratification for MMIS.

336 Gallstones and risk of incident psoriasis and psoriatic arthritis in U.S. women

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Metabolic syndrome and obesity are known to be strongly associated with both psoriasis and gallstones, implying possible common causal factors. However, the association between psoriasis and gallstones has not yet been studied. We studied the association between psoriasis and gallstones history based on data from the Nurses’ Health Study I (1976-2005). A total of 69,540 participants aged 40-55 years were included. In this study, 5,893 patients had gallstones confirmed by abdominal ultrasound. During 28 years of follow-up, 6,957 women developed gallstones during the follow-up. In this study, patients with a history of gallstones was found to be associated with increased risk of psoriasis (hazard ratio [HR] = 2.20; 95% CI: 1.46, 3.31) and increased risk of psoriasis with concomitant PA as well (HR = 4.79; 95% CI: 2.70, 8.50). After adjusting for BMI and other known risk factors for psoriasis and gallstones, a history of psoriasis with concomitant PA continued to demonstrate an increased risk of gallstones (HR = 2.56, 95% CI: 1.41, 4.65), as did a history of psoriasis alone (HR = 1.55, 95% CI: 1.02, 2.37). In this study, we found that a history of gallstones is associated with an increased risk of psoriasis and PA.
341 Citrus consumption is associated with risk of malignant melanoma

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Citrus products are dietary sources of polyphenols, a group of chemicals that have photodynamic properties. We examined the association between citrus consumption and subsequent incident malignant melanoma among participants in the Nurses’ Health Study (1986-2010) and the Health Professionals Follow-up Study (1986-2010). Among 105,437 participants over 2 million person-years of follow-up, we documented 1,875 incident melanomas. The pooled multivariate-adjusted hazard ratio for melanoma comparing the extreme total citrus consumption categories (1.5 or more serving per day vs. less than twice per week) was 1.30 (95% confidence interval [CI], 1.08 to 1.57) (P=0.003 for trend). Grapefruit and orange juice were two individual citrus products that showed significant associations with risk of melanoma. The pooled multivariate-adjusted hazard ratio for orange juice “followers” compared to the top ten most active dermatology journals and trade publications on social media. Five journals/trade publications “like” and twitter “follower” numbers were updated on 12/12/13 for the subset of the top ten most active dermatology journals found in the journal database SCImago on 5/30/12. We also searched for three additional popular peer-reviewed dermatology journals. The results of our study provide evidence that authors should also consider journal social media impact. We examined dermatology journal presence on social media. We searched Facebook and Twitter for 100 peer-reviewed dermatology journals found in the journal database SCImago on 5/30/12. We also searched for three additional popular peer-reviewed dermatology journals. The results of our study provide evidence that authors should also consider journal social media impact.

344 Representation of the most disabling skin diseases in the USA in The National Institute of Arthritis and Musculoskeletal and Skin Diseases grants

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While academic, authors and reviewers routinely appraise journal impact factors when determining where to submit their manuscripts, they may now also consider journal social media impact. We examined dermatology journal presence on social media. We searched Facebook and Twitter for 100 peer-reviewed dermatology journals found in the journal database SCImago on 5/30/12. We also searched for three additional popular peer-reviewed dermatology journals. The results of our study provide evidence that authors should also consider journal social media impact when considering manuscript publication.

345 Increased new coverage of the risks of indoor tanning after the California indoor tanning ban for minors

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Indoor tanning devices are a known carcinogen. Several states have passed laws banning minors from using them, and many other states are now weighing the benefits and costs of similar bans. Therefore, the objective of this study was to determine whether initial passage of the California indoor tanning ban for minors was associated with longer-term media coverage of skin cancer prevention and the risks associated with tanning beds. Articles from 31 English-language California newspapers between June 2010-May 2011 (PRE) and June 2011-May 2012 (POST) were searched for terms and phrases related to indoor tanning. Our data suggest modest but increasing use of social media among readers of dermatology journals. The results of our study provide evidence that authors should also consider a journal’s social media impact when considering manuscript publication.

347 Initial findings for the effectiveness of using IVIG to treat Stevens-Johnson syndrome and toxic epidermal necrolysis

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This is a retrospective review of adult patients diagnosed with SJS, SJS/TEN, and TEN at two large Boston medical centers over close to 10 years. Both institutions are large academic medical centers, contain a burn center and share the same dermatology residents, but only one site (Site 2) utilizes IVIG, which is indicated for cutaneous and systemic steroid use. Chart review assessed treatment course and outcome up to three months after discharge. 73 patients met inclusion criteria, with 51 (69.9%) patients from Site 1 and 22 (30.1%) patients from Site 2. The overall Site 1 mortality was 23.5%. 66.7% of patients who died had received oral steroids. 71.4% of patients who died had received oral steroids, the remainder were treated with supportive care. 74.1% of TEN patients at Site 1 who died had received oral steroids. The mortality rate for TEN patients treated with systemic steroids was 38.5%. The overall mortality rate at Site 2 was 22.7%. Of these patients, 60.0% had received only IVIG, 20.0% had received only oral steroids, and 20.0% had received both IVIG and oral steroids. There was a 33.3% mortality among TEN patients at Site 2 who were treated with IVIG alone and a 25.0% mortality among patients treated with both IVIG and steroids. 50.0% of TEN patients treated at Site 2 who died received IVIG alone and 50.0% were treated with both IVIG and oral steroids. The remainder were treated with supportive care with oral steroids alone, and survived. 39.2% received supportive care alone at Site 1 with four deaths. 13.6% of patients at site 2 received supportive care with no deaths. These findings suggest that patients treated with IVIG alone or in combination with oral steroids may be associated with lower mortality when compared to oral steroids alone. IVIG may be efficacious as well. This study is limited by its small size and retrospective nature. Similar large multicenter investigations are needed.
Underestimating disease burden: Trends in basal cell carcinoma incidence rates

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The incidence of basal cell carcinoma (BCC) has been dramatically increasing globally, but incidence rates in the United States are largely unknown because BCCs are not reportable tumors. We sought to report annual BCC incidence and percent change over time using a previously validated BCC registry based on electronic pathology reports from Kaiser Permanente Northern California (KPNC). BCCs were identified from a validated KPNC BCC Registry using electronic pathology reports from 1998-2012. Age- and sex-standardized incidence rate (IRs) were calculated based on US 2000 census data. The overall BCC IR at KPNC steadily increased from 418/100,000 person-years in 1998 to 535/100,000 in 2012. The overall standardized incidence rate for BCCs in the US population for 2012 was 448/100,000, much higher than previously reported estimates. The rate of increase of BCC incidence was steepest for men and those greater than age 80. There was no significant change in BCC incidence among those <40 and of non-white race during the study period. BCCs and their treatment pose an increasing burden to the healthcare system. Our study allows for a more accurate estimate of the incidence and disease burden of BCCs and their changing epidemiology.