

COVID-19 Session

CO01

Factors associated with hospitalization due to COVID-19 in patients with psoriasis: insights from a global registry

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Psoriasis is a common immune-mediated inflammatory skin disease with frequent multimorbidity, and immunosuppressants are the mainstay of treatment in moderate-to-severe disease. An understanding of the impact of COVID-19 on individuals with psoriasis and the effect of psoriasis therapies on the course of COVID-19 is urgently required to inform clinical decision-making. This study sought to characterize the clinical course of COVID-19 in patients with psoriasis and to identify factors associated with hospitalization. Clinician-reported cases of confirmed or suspected COVID-19 in psoriasis were collected via an international online registry. Multi-variable-adjusted logistic regression identified factors associated with hospitalization. Patient risk-mitigating behaviours were characterized using an independent global self-report registry. In total, 334 clinician-reported cases (median age 50 years, 62% male, median body mass index 28 kg m⁻², 85% white) from 22 countries [most frequently, the U.K. (35%), Italy (22%) and Spain (16%)] were available between 27 March and 20 June 2020. Altogether, 245 (73.3%) patients were receiving a biologic, 54 (16.2%) a nonbiologic and 31 (9.3%) no systemic treatment. Overall, 311 (93.1%) achieved a full recovery, 71 (21.2%) were hospitalized and nine (2.7%) died. Risk factors associated with hospitalization were older age [adjusted odds ratio (aOR) 1.71, 95% confidence interval (CI) 1.26–2.32], male sex (aOR 2.37, 95% CI 1.11–5.04) and nonwhite ethnicity (aOR 3.40, 95% CI 1.27–9.11), in addition to chronic lung disease (aOR 4.37, 95% CI 1.62–11.74) and hypertension (aOR 2.23, 95% CI 1.05–4.74). Reduced risk of hospitalization was associated with use of a biologic (aOR 0.42, 95% CI 0.18–0.98) vs. nonbiological

systemic therapy. There was no difference in risk of hospitalization between classes of biologics. An independent self-report psoriasis registry (1167 patients from 39 countries) suggested increased social isolation (76% vs. 66%; $P < 0.05$) but similar nonadherence to medication (18% vs 22%) in patients receiving biologics vs. nonbiological systemic treatments. In this international moderate-to-severe psoriasis case series, most patients fully recovered from COVID-19; older age, being male and being of nonwhite ethnicity increased risk of hospitalization. Use of biologics, when compared with nonbiological systemic therapies, was associated with reduced risk of hospitalization; however, this requires further study owing to potential selection bias and unmeasured confounding such as a difference in risk-mitigating behaviours.

CO02

Cutaneous manifestations in paediatric inflammatory multisystem syndrome temporally associated with severe acute respiratory syndrome–coronavirus 2 infection

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Paediatric inflammatory multisystem syndrome temporally associated with severe acute respiratory syndrome–coronavirus 2 (SARS-CoV-2) infection (PIMS-TS) has been defined by the Royal College of Paediatrics and Child Health as 'a child presenting with persistent fever, inflammation and evidence of single or multi-organ dysfunction' (<https://www.rcpch.ac.uk/resources/guidance-paediatric-multisystem-inflammatory-syndrome-temporally-associated-covid-19-pims>). We describe the skin manifestations in 17 paediatric patients presenting from 14 March to 18 May 2020 to a single institution with features of PIMS-TS. Common presenting symptoms in these 17 children included fever, rash and gastrointestinal symptoms. Less common presentations included cough, epistaxis, arthralgia, headache and respiratory symptoms and were only present in one patient. Median age at presentation was 11 years (range 1–16), and the male-to-female ratio was 1.8 : 1. The majority of patients were black, Asian and minority ethnic (BAME); nine were of Afro-Caribbean descent, three were white, two were Turkish, one was Albanian, one was Indian and one was Hispanic. Within this group, nine (53%) presented with a skin rash, eight (47%) with conjunctival involvement and three (18%) with cheilitis. The time of onset of cutaneous disease was variable, but most patients presented with a rash at admission or within a few days of admission. The rash was polymorphous, but the most common skin presentations were a maculopapular eruption and fixed urticaria, particularly on the trunk and limbs. In addition, acral presentations were seen with erythematous oedematous ears and fingers. The

pathophysiology of PIMS-TS is currently poorly understood, but it may represent an antibody or immune complex-mediated postinfectious inflammatory syndrome (Verdoni L, Mazza A, Gervasoni A et al. An outbreak of a severe Kawasaki-like disease at the Italian epicentre of the SARS CoV-2 epidemic: an observational cohort study. *Lancet* 2020; Epub ahead of print). As dermatologists collate databases of images and histopathology of skin disease with this new virus, SARS-CoV-2, a clearer picture of the pathophysiology of this disease should emerge. We propose that in any child presenting with persistent fever, rash and evidence of systemic inflammation, PIMS-TS should be considered, and urgent specialist referral sought, in light of the serious cardiac complications that may arise. Further investigation is needed into the apparent higher rate of PIMS-TS in BAME children and the association with SARS-CoV-2 infection.

CO03

Occupational dermatoses during the COVID-19 pandemic: a multicentre audit in the U.K. and Ireland

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Healthcare workers (HCWs) need to wear personal protective equipment (PPE) during the COVID-19 pandemic. Studies from China report high rates of irritant dermatitis in frontline HCWs (Pei S, Xue Y, Zhao S et al. Occupational skin conditions on the front line: a survey among 484 Chinese healthcare professionals caring for Covid-19 patients. *J Eur Acad Dermatol Venerol* 2020; Epub ahead of print). The British Society of Cutaneous Allergy conducted an audit of occupational dermatoses in HCWs. Eleven centres in the U.K. and Ireland organized occupational skin disease clinics to treat PPE-related dermatoses. A standardized proforma was completed, which included information about site, dermatological history, occupation, working environment, shift pattern, sick leave, PPE and handwashing practices. Diagnosis and treatment were advised during a virtual consultation. Each participating unit entered anonymized audit data into a spreadsheet. Data from 200 HCWs were collected in May and June 2020. Forty-three per cent (n = 86) worked in England; 30.5% (n = 61) in

Scotland, 13.5% (n = 27) in Ireland and 13.0% (n = 26) in Wales. Median age was 36 years. Ninety per cent (n = 180) were female; 67.0% (n = 134) had nursing roles. The face was affected in 46.5% (n = 93) and hands in 46.0% (n = 92). In 94.0% of cases (n = 188) the clinical findings were felt to be occupational or partially occupational, with the most common diagnosis being irritant contact dermatitis: 59.0% of patients (n = 118). Seventeen per cent (n = 35) had required time off work (292.5 days in total; range 0.5–28). The mean number of hours of PPE wear per shift was 6.9 [median 7.5, interquartile range (IQR) 4–10]. Those who wore PPE for longer periods had more time off; each hour of wearing PPE during a shift increased the time off by 0.2 days [95% confidence interval (CI) 0.002–0.344; P = 0.048]. The mean number of handwashes with soap per day was 22.7 (median 20, IQR 10–30). Each handwash increased the expected number of days off by 0.03 (95% CI –0.013 to 0.069; P = 0.174). The mean number of uses of alcohol gel per day was 19.2 (median 10, IQR 5–30). There was an inverse association with use of alcohol gel and time off; each use of alcohol gel per day reduced the expected number of days off by 0.03 (95% CI 0.002–0.066; P = 0.04). These data indicate that the duration of wearing PPE, frequency of handwashing and use of alcohol gel have a significant effect on the time off work for HCWs.

CO04

The impact of COVID-19 on dermatology trainees in the U.K.: lessons from a national survey

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The COVID-19 pandemic has resulted in significant changes to working practices across the medical profession globally. We undertook a study into the impact on dermatology trainees in the U.K. – a cohort that has been uniquely affected vs. colleagues in other medical specialties. Along with changes in day-to-day working, formal teaching events and conferences have been cancelled; the routine educational and social opportunities trainees usually benefit from have been lost, resulting in dissonance in professional identity. Conversely, there has been novel scope to learn and develop in otherwise unknown and unconventional ways. A national survey was emailed to all Trainee and Associate Trainee members of the British Association of Dermatologists in April 2020, targeting the approximately 250 Dermatology Specialty Trainees. Respondents were asked to answer open and closed questions regarding their experiences during the COVID-19 pandemic. Questions explored time spent while remaining in dermatology (e.g. virtual clinics and a skewed case mix) through to details of redeployment to the front line in general medicine and intensive care. One hundred and thirty-three responses were returned. In total, 54.1% of trainees were either partially or fully redeployed, with 88.9% of this cohort working in acute or general medicine. Altogether, 90.2% of respondents felt their training

in general dermatology had been negatively affected. Eighty-two per cent felt that their dermatological surgery experience had been negatively affected. In total, 70.5% felt there were some positives to the change in training opportunities and work setting, including the development of leadership and management skills, although further feedback suggested there was otherwise little overlap with specialty competencies. There was overwhelming concern with the lack of face-to-face patient contact, reduced opportunities for workplace-based assessments, and lack of support and resources to facilitate the smooth running of virtual clinics (e.g. no video/photographs available and poor-quality photographs.). There has been a clear and significant negative impact on dermatology training in the U.K. as a result of the COVID-19 pandemic. The degree of engagement with our survey and the comments made highlight the strength of feeling. Dermatology trainees may have been disproportionately affected owing to the limited overlap in competencies gained during COVID-19 redeployment vs. other specialties. Concern exists about both the immediate and long-term impact on dermatology learning, overall development and progression of training. A repeat survey is planned for 6–8 months' time, to assess the ongoing impact on dermatology training, and to learn more about – and help shape – what may become a 'new normal' in the future.

CO05

Cutaneous manifestations in COVID-19: a case series from a hospital in an area with high infection rates

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Cutaneous manifestations of COVID-19 infection have been described in the literature since the onset of the pandemic. No formal classification system has been suggested, but cases reported in the literature demonstrate various subtypes, including urticarial, maculopapular, papulovesicular, purpuric and livedoid lesions. The pathogenesis of the cutaneous response is not fully understood, but may represent inflammatory and thromboinflammatory processes. Our institution in South London has treated one of the largest numbers of inpatients with confirmed COVID-19 infection in the U.K., with 2989 cases recorded between 1 February 2020 and 29 June 2020. We describe the spectrum of cutaneous disease associated with COVID-19 infection presenting to an acute liaison dermatology service over a 4-month period from March to June 2020. From a large number of referrals of COVID-19-positive patients with skin disease, 13 cases of cutaneous presentations thought to be caused by COVID-19 infection were identified [eight males, five females; mean age 44 years (range 15–59)]. We included cases from outpatient (n = 8), inpatient (n = 2) and intensive care (n = 3) departments. Eight of 13 had positive COVID-19 antigen testing, while five of 13 had symptoms indicative of COVID-19 infection but were not offered a test. Clinical manifestations included pernio-

(n = 3), livedo (n = 2), urticaria (n = 2), maculopapular exanthema (n = 2), vasculitis (n = 1), panniculitis (n = 1), eccrine squamous syringometaplasia (n = 1) and digital vein thrombosis (n = 1). Five of 13 had a skin biopsy that supported the clinical diagnosis. Skin disease in COVID-19 infection reflects viral exanthematous inflammation in many cases. Thromboinflammatory pathologies also contribute to some COVID-19 dermatoses. Vascular and vaso-occlusive pathologies occur prominently in the lungs and kidneys, as well as the skin, and appear to have pathogenetic specificity for COVID-19. Immunostaining of lung tissue with an antibody to the Rp3 NP protein of severe acute respiratory syndrome-coronavirus 2 has revealed prominent expression on alveolar epithelial cells. Immunostaining of skin sections might provide further evidence for a direct viral effect in COVID-19 dermatoses. Our findings are comparable with those of European colleagues regarding the spectrum, the latency and the duration of the cutaneous symptoms. We would like to add our description of three new cutaneous manifestations of COVID-19 infection – panniculitis, eccrine squamous syringometaplasia and digital vein thrombosis – to the body of literature on this topic.

CO06

Skin cancer surgery during the COVID-19 pandemic: a national, multicentre, prospective cohort study and survey of plastic surgeons

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Skin cancer is the most common malignancy worldwide. The COVID-19 pandemic has caused an unprecedented reorganization of healthcare services. This study established what effect the pandemic has had on the provision of skin cancer surgery by plastic surgeons in the U.K., one of the worst affected countries globally. A national, multicentre, prospective cohort study of non-melanoma skin cancer excisions was undertaken. Retrospective data were collected on melanoma surgery. Consecutive monthly surveys from plastic surgeons ascertained how national guidance was implemented. The primary outcome was surgical provision by tumour type. In total, 2050 patients (1549 with non-melanoma skin cancer and 501 with melanoma) from 32 plastic surgery units were enrolled between 16 March and 14 June 2020. Surgeon surveys were received from 34 plastic surgery units. The number of non-melanoma skin cancers treated per week fell by 27% to 44% during lockdown. The median number of general anaesthetic operating lists per week per institution fell sixfold from three before the pandemic to 0.5 in April ($P < 0.001$) and gradually increased in May and June but did not reach pre-'lockdown' levels. Excision of squamous cell carcinomas (SCCs) was prioritized over basal cell carcinomas (BCCs). At the peak of the

pandemic, SCCs made up 71% of excisions (normally 28%; $P < 0.001$). Sentinel lymph node biopsies for melanoma (Breslow thickness ≥ 0.8 mm) occurred in only 26%, suggesting many patients were not accurately staged, restricting their access to adjuvant therapy. Two patients (0.7%) developed COVID-19 after melanoma surgery. High-risk tumours were particularly affected, as 77% of surgeons reported Mohs micrographic surgery was stopped and radiotherapy was run at a reduced service in 70% of units. Surgeons reported that surveillance for melanoma and SCC stopped in 10% and operating on BCCs was stopped in 73% of units. All skin cancers suffered a significant and abrupt disruption, but high-risk and complex lesions were worst affected. The majority of changes observed were in line with speciality association pandemic guidelines. In contrast to previous studies, we have demonstrated that operating on skin cancer during the pandemic was safe. To reduce further mortality and morbidity from the COVID-19 pandemic, skin services must be resumed urgently.

Demographics	
No. of patients	2050
Sex	
Male	1238 (60.4)
Female	812 (39.6)
Mean \pm SD age (years)	70.2 \pm 15.0
Operations	
No. of operations	2056
Anaesthetic	
Local	1807 (92.3)
General	145 (7.4)
Regional	6 (0.3)
Unknown	98
Histology outcomes	
No. of specimens sent	2378
Results available	2215 (93.1)
Results awaited/unknown	163 (6.9)
Clinical outcomes	
Results available	1704 (83.1)
Results awaited/unknown	346 (16.8)

Data are n (%) unless otherwise indicated.

CO07 COVID-19 virtual medical dermatology clinics: high levels of satisfaction but face-to-face consultations preferred by patients

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The COVID-19 global pandemic necessitated rapid increases in dermatology virtual consultation activity, especially for medical dermatology cases. Clinicians are well aware of the limitations of virtual consultations. We set out to examine how these are appraised by patients. A retrospective survey of 112 patients (consulted in the last 6 months) was undertaken by

telephone interview, using a prepiloted 0–5-point Likert scale. Sixty-two patients (50% male; mean age 46.6 years; eight new/54 follow-up) volunteered: 25 had telephone consultations (TCs), 26 had face-to-face (F2F) ones and 11 had both. Satisfaction was high from TCs (mean \pm SD 4.35 \pm 0.79) but was significantly higher for F2F [4.82 \pm 0.46; $P = 0.014$ (Kruskal–Wallis)]. Assessment of medical care received was similar ($P < 0.05$). For those who had both types, satisfaction with F2F was also higher but did not reach statistical significance. Regarding electronic photographs, all virtual consultation patients were offered the option to send/upload photographs, but only 39% did. All patients were happy for their photographs to be stored in hospital records. Most patients felt able to take digital photographs (4.61 \pm 0.73) and equivalently able to send photographs electronically (4.45 \pm 0.99; $P = 0.58$) but significantly less able to upload photographs to a National Health Service website (4.16 \pm 1.01; $P = 0.02$). In our cohort, five patients (three on dupilumab, two on topical therapy) had suffered symptoms suggestive of COVID-19, but all made good recoveries. Patients valued clinical examination as superior in F2F. The advantages of remote consultation were largely convenience and reduced travelling. When offered the next appointment as F2F, TC or video, 19% chose any option, 27% chose only F2F and 21% chose only virtual. TC was included in 56% of combination responses. Limitations of this work include recall bias, and it is possible that the current COVID-19 crisis modified some patient responses. Our data confirm that telephone consultations are highly valued by patients, and it seems likely that virtual consultations will become increasingly part of routine care, but it is important to note that F2F satisfaction was significantly superior ($P = 0.01$). The practicalities of simple photograph and email technology were not an issue, but video consultations and uploading data were less feasible. Therefore, in planning the development of dermatology services after COVID-19, it must be noted that patient choice for virtual consultations will be varied and clinicians must be alert to risks of technologically mediated health inequalities if too much emphasis is placed on virtual consultations.

CO08 Tele dermatology in the West Midlands during the COVID-19 pandemic

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The COVID-19 pandemic has brought about rapid changes to dermatology service delivery. Guidance has been issued by the British Association of Dermatologists, which has set out key principles and advice for adaptation and restructuring of current services. We aimed to examine and analyse the use of tele dermatology in the West Midlands during the pandemic. The West Midlands covers a population of almost six million, and it is ethnically and socioeconomically diverse. Geographically, the region covers sparsely populated rural areas to densely populated urban centres. To gather data, an online survey

was sent to all past and present dermatology clinicians in the region. We collected responses from 41 clinicians from the region. The majority of respondents were consultants (73%). Prior to the pandemic, 89% of respondents were not using any teledermatology as part of their routine practice. As a direct result of the COVID-19 pandemic, all respondents were now making use of telephone consultations and 67% were using store-and-forward (SAF) images to triage patients on 2-week-wait (2WW) clinics. For 2WW clinics, the technical quality of the photographs was an important factor when making clinical decisions. Sixty-one per cent of photos received using SAF to triage 2WW patients were taken by patients or their relatives, 34% were taken by a medical photographer and 5% by a general practitioner (GP). Respondents indicated that photos taken by patients and GPs had a wide range of technical accuracy (averaging 47% and 54%, respectively). By contrast, photos from medical photographers scored higher, with 86% being technically accurate. Telephone consults were largely deemed satisfactory (56% of respondents expressed neutral views), but video consultation proved to be less favourable (64% of respondents who had access to this technology did not deem it a useful consultation tool). Overall, experiences of teledermatology use during the pandemic were positive, as 58% of respondents reported a positive impact; conversely, 8% of respondents felt that their experiences were negative. Only 37% of respondents were actively auditing their service and only 22% were carrying out patient surveys. There is no doubt that increased use of teledermatology is here to stay, and the pandemic has expedited its uptake. Encouraging learning, auditing and improving teledermatology services will lead to better understanding and development of precise and robust pathways. Shared learning of experiences and outcomes will be the cornerstone for achieving teledermatology services that can ultimately lead to better outcomes for our patients.

CO09

Streamlining patient referrals and clearing the dermatology non-2-week-wait waiting list using trainee-led teledermatology

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Amidst the COVID-19 pandemic, the National Health Service (NHS) faced unprecedented changes to patient care, with specialties having to adapt using technology. At the outset of the pandemic our dermatology department already had a waiting list of > 800 new patient referrals [excluding 2-week-wait (2WW) patients], owing to the impending release of a new electronic patient record ('MyCare') platform. By redesigning pathways and reallocating surgical resources to remote consultation clinics we observed a paradoxical explosion in efficiency. Within 10 weeks of the onset of 'lockdown' we had virtually cleared the waiting list to 18 patients (which had peaked at 950 patients), using a combination of teledermatology, telephone clinics and video consultations. A solution was

devised by consensus in the department. Urgent cases and possible [non-basal cell carcinoma (BCC)] cancers were still seen face to face. However, all other appointments became virtual, using telephone consultations and emailing photographs in a patient-directed store-and-forward approach. Where surgical lists for non-urgent BCC surgery had been cancelled, clinicians were allocated remote-consultation clinics, with temporal and geographical flexibility for delivery within their current job plans. Patients were invited to send skin photographs to a shared departmental NHS.net account that was initiated by trainees, to supplement telephone consultations where required. Quality was assisted by explaining simple photography techniques in a default email signature (<https://www.bad.org.uk/shared/get-file.as#x?itemtype=document&id=5818>). The issue of consent was managed practically for the majority; the act of sending a photograph inherently implied consent. Where necessary, patients had the option of signing a bespoke teledermatology consent form sent as an email attachment, enabling images to be saved to their medical record if required. Additional resources of benefit include Attend Anywhere video consultations, and M-modal digital dictation. Furthermore, to manage new patients referred after onset of the pandemic, Consultants are e-triaging all non-2WW referrals through e-RS using a Referral Assessment Service – with e-RS Advice and Guidance being used routinely, too. Teledermatology during the COVID-19 pandemic has not only compensated, but has also highlighted some advantages over traditional patient pathways. Clinicians and patients alike quickly acknowledged that a telephone call could often suffice, if not preferable to meeting in person. With a large catchment area, many patients were pleased to avoid the long journeys. COVID-19 catapulted everyone into uncharted territories, posing innumerable obstacles in delivering good patient care. With simple measures, we emerged having tackled our already inflated pending list. What is more, the delivery of traditional model of care was questioned. Who knew you could see a dermatologist over the phone?

CO10

Ultraviolet A correlates inversely with risk of COVID-19 death

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Seasonal variation in temperature, humidity and ultraviolet (UV) radiation are related to the incidence of several infectious diseases. COVID-19 arose only 6 months ago, and it is thus not possible to describe seasonal variation. Nonetheless, spatial variation in the levels of environmental UV in the early pandemic allows for an early exploration of its relationship with COVID-19 mortality. We explored whether UVA exposure might be associated with COVID-19 deaths. We used an ecological model across counties ($n = 2474$) for the contiguous U.S.A. during their 'vitamin D winter' (monthly mean $UV_{\text{vitd}} < 165 \text{ KJ m}^{-2}$). We derived UVA measures over this period for each area and estimated, in a multilevel zero-

inflated negative binomial model, their relationship with COVID-19 mortality with a random effect for states. The 'at-risk' population was the total county population, with the state-level random effect; proportion of population tested positive for COVID-19 at the state level; and measure of infection susceptibility (county population density and urban–rural status) used to incorporate spatial infection into the model. We then replicated this model for excess deaths across 6755 municipalities in Italy, and for COVID-19 deaths in 6274 areas of England. We corrected each model for multiple confounders at the small area level. We generated a pooled overall estimate of risk with a meta-analysis. Daily mean UVA (January–April 2020) varied between 450 and 1000 KJ m⁻² across the three countries. Our fully adjusted model showed an inverse correlation between UVA and COVID-19 mortality with a mortality risk ratio (MRR) of 0.73 (0.62–0.87) per 100 KJ m⁻² increase in UVA in the U.S.A., 0.81 (0.71–0.93) in Italy and 0.51 (0.39–0.66) in England. The pooled MRR was 0.68 (0.53–0.66). Our analysis, replicated in three independent national datasets, suggests that ambient UVA exposure is associated with lower COVID-19-specific mortality. This effect is independent of vitamin D, as it occurred at irradiances below those likely to induce significant cutaneous vitamin D3 synthesis. Cardiovascular disease worsens prognosis in COVID-19. We have previously described a novel UVA-driven, vitamin D-independent mechanism by which sunlight lowers blood pressure via nitric oxide (NO) release from skin and reduces incident myocardial infarctions. This nonspecific benefit may account for the UV–COVID-19 mortality relationship. Additionally, and more directly, NO inhibits the replication of the closely homologous severe acute respiratory syndrome–coronavirus 1 by post-translational modification of the spike protein blocking ligation of the angiotensin-converting enzyme 2 receptor. Causal interpretations must be made cautiously in observational studies. Nonetheless, this research suggests strategies for a reduction in COVID-19 mortality.

CO11

Keeping the lights on: virtual asynchronous consultations during the COVID-19 pandemic

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The COVID-19 pandemic has changed the way we deliver healthcare. During 'lockdown' all but the most urgent face-to-face (F2F) consultations stopped. There will be a continuing need for innovation to maintain services, and teledermatology offers the potential to help meet demand, while continuing to maintain social distancing. We report the use of a store-and-forward teledermatology platform to facilitate virtual asynchronous consultations. The platform was developed and piloted across two health boards, with initial use focused on return consultations. The restrictions imposed during the pandemic prompted its use on a larger scale, with the addition of a specific proforma for new consultations. Patients are invited

to register using a web-based app, and then have a 5-day window to submit information and pictures to an assigned clinician. The clinician then responds within an agreed timeframe, and a PDF of the consultation is sent to the general practitioner automatically. The system can integrate with patient-management systems, although at the time of this audit it was only integrated in one of two health boards. During an 11-week period from late March 2020, 405 consultations (new 297; return 108) were completed. In total, 292 consultations involved the assessment of lesions, most referred as suspected cancers. Patients of all ages participated successfully, with 31% over the age of 60 years. Parents of 12 children also successfully participated. Responses to 219 consultations were completed from home by a clinician, highlighting the potential for the system to facilitate remote working. Outcomes from the virtual consultations included further virtual review (16%), F2F review (47%), direct surgery (12%), discharge (22%) and other treatment/investigations (3%). The majority of those needing F2F review were scheduled for routine follow-up, although 29% were booked as urgent to confirm diagnosis, typically where image quality was not sufficient for diagnostic certainty. The average time taken by the clinician was 10 min per consultation vs. 13 min for equivalent F2F. However, these timings were taken without the benefit of full system integration. Patient satisfaction was good, with 82% of respondents reporting ease of use. Forty-two per cent reported that they would normally have had to miss work to attend the clinic. The system also confers environmental benefits with a total of 5758 km of patient travel saved. This pandemic has resulted in a paradigm shift in the way we deliver outpatient care. Virtual asynchronous consultations, within an integrated dermatology service, provide an efficient alternative to some F2F consultations.

CO12

Rapid introduction of National Health Service Attend Anywhere video consultation during the COVID-19 pandemic

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Early in the COVID-19 pandemic, it was apparent that capacity for face-to-face (F2F) dermatology appointments would plummet. Within 2 weeks we introduced the National Health Service (NHS) Attend Anywhere video consultation platform. In the absence of a pilot project we undertook an analysis of our initial experience with the platform. Data were collected prospectively through a paper-based survey of clinical users within outpatients over 4 weeks in May 2020. We collected data on 103 virtual appointments. Twenty-six (25.2%) patients failed to attend. Of 77 consultations there were 33 general dermatology, 28 tumour, 12 allergy and four paediatric patients. Good video quality was reported in 34 of 77 consultations (44%). Good audio quality was reported in 47

of 77 consultations (61%). For general patients, 58% of consultations resulted in a subsequent F2F consultation, 21% further virtual consultation, 18% were discharged or received advice only and 3% attended for investigations. Forty-eight per cent of consultations were felt to be better than or as good as F2F. For tumour patients, 57% of consultations resulted in a subsequent F2F consultation, 29% went directly to surgery, 11% were discharged or received advice only, and 3% were referred to another specialty. All consultations were felt to be inferior to a F2F appointment. For allergy patients, 50% attended for further investigations. Thirty-three per cent of consultations resulted in a subsequent F2F consultation, 8.3% of patients had a further virtual consultation and 8.3% received advice only or were discharged. Sixty-six per cent of allergy consultations were felt to be better than F2F, often owing to the requirement for patient shielding. The remaining 34% of consultations were felt to be as good as F2F. Positive themes from users included a reduced need for F2F consultations, especially for patients who were shielding. In some cases, patients were referred directly for investigations or treatment, reducing the overall visits to the department. The main negative theme was that clinical examination was very limited. In particular, clinicians were concerned about the inability to palpate the skin, use dermoscopy and perform a full skin survey. NHS Attend Anywhere was introduced out of necessity. In our experience, it is not suitable for the assessment of patients with skin tumours. With F2F clinic capacity likely to be constrained for some time, the platform has some utility in the assessment of new general patients, allergy patients and in monitoring of existing patients, particularly those on immunosuppression.

CO13

'The virtual consultation': a COVID-19 necessity, but how does it work in practice?

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As a result of the COVID-19 pandemic, routine dermatology appointments in our trust were suspended from March 2020. In response, we later introduced virtual telephone and video consultations using accuRx for new routine dermatology referrals. Although supported by guidance from the British Association of Dermatologists, there is a relative lack of evidence for use of the virtual consultation (VC) in routine dermatology. We therefore sought to assess its practicality and effectiveness, and reflect on the experience. We undertook a review of 200 consecutive routine new patient VCs by an experienced general practitioner (GP) associate specialist during lockdown. Patients were allocated a specific time for the consultation. The outcomes, diagnosis, type of dermatology presentation and the use of video were recorded. This was compared with 200 routine new patients seen face to face (F2F) by the same GP associate specialist in 2019. Both groups showed similar demographics (57% females, 43% males, mean age

52.1 years). Owing to the COVID-19 pandemic, average waiting times were significantly longer for VCs (33.6 weeks vs. 15.5 weeks; $P < 0.001$). Did not attend/answer rates were very similar (VC 9.5%, F2F 10.5%). AccuRx video was used successfully for 32.5% of the patients in the VC group. Of the remaining VC patients, 30.5% did not require video, 23.5% said it was not possible (no mobile phone, lack of technical experience, inappropriate location, patient refusal) and 3.5% failed. The 'not possible' group were older, with a mean age of 69.2 years ($P < 0.001$). Dermatological presentations were similar in both groups (49% lesions, 27% inflammatory rashes, 11% other rashes, 13% miscellaneous). Fewer patients were discharged from VC after the first consultation (VC 15%, F2F 26%) and fewer referred for minor surgery (VC 22%, F2FC 27%). More VC patients were referred for routine follow-up (VC 37%, F2FC 16%). More lesions were followed-up routinely after VC (VC 39%, F2F 7%). Additionally, fewer patients with lesions were discharged after VC (VC 7%, F2F 37%). VC may have a role in the management of the long referral waiting times generated by COVID-19 in the future. We conclude that VC is a satisfactory method of assessing some new routine patient referrals but does create more routine follow-up work particularly for patients with lesions. VC requires a committed and organized practitioner, has advantages for the patient, a potential triage role and possible cost savings for the National Health Service. We recommend seeking patient feedback concerning the VC process and analysing final diagnosis outcomes in both groups.

CO14

Streamlining skin cancer services during the COVID-19 pandemic

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The COVID-19 pandemic has enforced drastic changes in dermatological practice with skin cancer services prioritized. Two-week-wait referrals from April to May 2019 were compared with the same period from 2020 – at the height of the pandemic – and analysed using Stata version 16 in order to inform a long-term change in practice. There were 695 referrals across both years (4 months); 441 (63.4%) in 2019 and 254 (36.5%) in 2020. The rate of attendance was higher in 2019 (pre-COVID-19): 418 (95%) vs. 227 (90%) in 2020 ($P = 0.008$). Mean patient age in 2019 was 56 years and in 2020 it was 52 years. There was no change in sex distribution. Among the attendees, 45.3% required a biopsy. The rate of biopsy requirement was lower in 2020 than in 2019 (38% vs. 49%; $P = 0.007$); however, more of the biopsies were carried out on the day in 2020 than in 2019 (33% vs. 11%; $P < 0.001$). The most common reason for not performing a biopsy in those requiring one in 2019 was due to elective booking (85%); however, in 2020 there were only 10 patients who did not have a biopsy when one was required and the reasons were mainly unknown. Across both years,

there were 17 histologically confirmed cases of malignant melanoma: 2.6% of all attendees. This rate was slightly higher in 2020 (3.1% vs. 2.4%) but was not statistically significant ($P = 0.6$). The rate of basal cell carcinoma, squamous cell carcinoma and other malignancies were 6.8%, 5.1% and 5.9%, respectively, and were not statistically significant different between 2019 and 2020. The rate of melanocytic naevus was 6.2% and other melanocytic lesions was 1.1%. The rate of histological confirmation of 'other benign' conditions was 14.6%; this was significantly lower in 2020 (9.3%) compared with 2019 (17.5%; $P = 0.005$). Overall, 47% were discharged on the same day; 57.6% in 2020 vs. 40.7% in 2019 ($P < 0.001$). Among those requiring follow-up, the majority in 2019 had face-to-face appointments (56%); however, in 2020 the majority had telephone appointments (65%), which was statistically significant ($P = 0.001$). Our data suggest that the changes incurred by COVID-19 have driven a more effective and accurate skin cancer service; similar amounts of malignancies were identified with a simultaneous reduction in biopsy-proven benign conditions. In the future, there is an important role for on-the-day biopsies with more telephone follow-up consultations.

CO15

Community-based medical photography improves skin cancer teledermatology triage during the national COVID-19 pandemic

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The COVID-19 pandemic limited the ability to do conventional outpatient patient face-to-face consultations. New patient skin cancer referrals could not be postponed while awaiting resolution of the COVID-19 pandemic. Photographs taken by patients and community physicians are of ranging quality, adding to the challenge of teledermatology triaging. A new pilot was designed to aid skin cancer triage with professional medical photography images of lesions to be taken in the community setting to avoid patients attending hospital during the COVID-19 pandemic. All consecutive 2-week-wait skin cancer referrals were included over a 2-week period in May 2020 during the peak of the national COVID-19 pandemic. Patients were automatically allocated an appointment time with the medical photography department, in a specifically set up community location. On arrival, patients were given a screening questionnaire with details requested about the nature of their lesion. Professional images were taken and loaded onto the patient's medical illustrations record. Patients were triaged by dermatology consultants based on their general practice referral details, patient questionnaire and professional image. The triage options included booking straight to surgery, clinic appointment or discharge. Patients were then called by a medical professional and informed of the triage outcome. Over the 14-day period, 122 patients were referred to the dermatology department. Mean age was 57 years (range 16–93). One patient was excluded owing to being a child; two patients did not attend their appointment. On allocation

of a medical photography appointment, five patients declined to attend and were subsequently booked into clinic. The triage discharge rate was 35.1% ($n = 40$), with 20.2% ($n = 23$) being booked directly to a dermatology surgery list, and 43.8% ($n = 50$) allocated a clinic appointment. Histopathological correlation of the suspected triage diagnosis was confirmed in 72% of patients. Of those seen in the face-to-face clinic, dermatology surgery was subsequently requested in 38% ($n = 19$). Community-based medical illustration appointments reduced the requirement for patients to attend hospital during the national COVID-19 pandemic. The high-quality images of referred suspected skin cancer lesions, combined with a patient questionnaire, allowed for patients to be promptly remotely triaged, with a higher than previously documented discharge rate vs. standard face-to-face consultation. Patient satisfaction was high, with rapid surgery allocation dates and quick-response triage. Patients with benign conditions were able to be discharged without the risk of having to attend hospital. Triage consultants reported that triage time was quicker than standard clinic consultation time, which was a further important factor during a time of staff shortages, with illness and redeployment.

CO16

Necessity is the mother of invention: implementing virtual assessment in specialist eczema and psoriasis services during a pandemic

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We provide a large tertiary service for adult patients with severe atopic dermatitis (AD) and psoriasis. To match a year-on-year increase in demand we redesigned the conventional outpatient model to manage patients more efficiently and develop a more accessible service through use of digital technology. The coronavirus pandemic was a catalyst for rapid implementation. We conducted a patient engagement exercise through semi-structured interviews ($n = 14$). This highlighted that face-to-face review was not considered essential when skin disease was in remission; outpatient consultations were burdensome to some and many (79%) favoured remote assessments. A 'virtual assessment' tool to evaluate patients' progress and determine whether or not it was safe and clinically appropriate to continue systemic therapy was developed. This structured online questionnaire was sent to patients capturing quality of life and skin assessment scores, medicine information and new medical issues. A validation exercise of the tool ($n = 45$) comparing use of the form as a virtual assessment (clinician/pharmacist) with actual face-to-face assessment (clinician) confirmed the tool to be safe, with a high concordance in drug management and no instances where it was recommended to continue drug by virtual consult when the prescription was changed in clinic. Eighty-two

per cent of patients were happy to consider remote assessment. The tool was approved by our information governance team. In March 2020, at the onset of the coronavirus pandemic, all routine follow-up was converted to telephone review. With this radical change in practice we rapidly implemented our tool, initially as a preassessment sent 7 days prior to telephone consult. In the first 4 weeks, this was sent to 210 patients with AD and 218 patients with psoriasis, with a 70% and 86% completion rate, respectively. This facilitated remote review with the routine capture of patient-reported outcome measures, with 90% of patients reporting that they wanted to continue their current treatment and 46–58% raising specific queries. Qualitative feedback from the clinical team has been positive. In addition, data regarding the use of this tool has informed practice, with 50% of patients completing the assessment within 24 h of their appointment and 84–90% reporting it easy/very easy to use. The interactive element of the tool also allows patients to receive immediate outcomes straight after their virtual consult via text messages. We now plan to implement the tool fully as a substitute for certain telephone reviews. This will further increase capacity for acute patient-initiated follow-up. This is in line with the National Health Service Long Term Plan (2019) enabling patients to actively participate in their care through the use of digital technology.

CO17

Effects of COVID-19 on the 2-week-wait dermatology services at a regional centre between 2019 and 2020

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The COVID-19 pandemic has led to significant challenges within dermatology services. We report the impact of COVID-19 on our 'two-week-wait' (TWW) skin cancer service, comparing January–April 2019 to January–April 2020 in a tertiary setting. Specifically, we looked at the total number of TWW referrals seen over these periods, conversion rate and the types of skin cancer diagnosed. Conversion rate is defined as the percentage of suspected skin cancer referrals that are confirmed as malignancy (excluding basal cell carcinoma) on histology. Between January and April 2019, we received 1818 referrals. Within the same period in 2020, we reviewed 1444 cases. This represents a 20.5% ($n = 374$) reduction. Stratifying by months, we reviewed 27.0% ($n = 88$) more patients in January and 6.1% ($n = 27$) in February 2020 vs. 2019. However, we observed a 19.2% ($n = 102$) and 74.8% ($n = 387$) reduction in TWW referrals for March and April 2020, respectively, compared with the previous year. These months coincided with the peak of the COVID-19 pandemic in the U.K. Conversion rate across the 4-month period in 2019 and 2020 are in line with the national data (3–12%), ranging from 3.6% to 6.9%, with

highest rate recorded in April 2020. The average conversion rate for the first quarter of 2020 was higher than 2019; 5.61% vs. 4.1% ($P = 0.07$). Squamous cell carcinoma (SCC) and malignant melanoma (MM) were the most common skin cancer types. There was a noticeable decrease in the number of cases diagnosed in 2020. We confirmed 89 SCC and 31 MM cases in 2019 vs. 38 SCC and 14 MM cases in 2020, corresponding to a 57.3% and 54.8% reduction, respectively. Our data clearly show a significant reduction in the number of TWW referrals, treated cases and subsequently cancer diagnosis over the COVID-19 period. This is likely due to the decrease in primary care referrals coupled with a smaller number of patients seeking assessment for fear of contracting COVID-19. Furthermore, the restructuring of the dermatology department during the pandemic led to reduced surgical activity and therefore fewer cases treated. The higher mean conversion rate in 2020, although trending towards significance, may not be representative as the pandemic is still ongoing. More data will become available to cover various phases, including early restoration period in due course. This is an important first step to understand how COVID-19 has affected dermatology services in the initial phase and will aid in future planning should a second wave occur.

CO18

A quality improvement project evaluating patient and clinician experience of video consultations in outpatient dermatology

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The COVID-19 pandemic has brought about unprecedented changes to healthcare delivery. Balancing infection-control practices with the provision of safe specialist care has led to the introduction of video consultations (VCs). Consequently, NHS England has collaborated with Attend Anywhere® (AA) to offer a VC platform to National Health Service trusts. We present the first evaluation of a VC platform in dermatology, at a time when minimizing the substantial indirect impact of the pandemic on patients' lives is vitally important in improving long-term accessibility to dermatology care for vulnerable groups. We are performing a quality-improvement project to evaluate patient and clinician experience of using AA in a U.K. dermatology secondary care outpatient centre during the current pandemic (at the time of writing, June 2020). The clinician survey and final outcomes will be assessed in September 2020. Prospective online surveys for patients and clinicians were designed. The patient survey was integrated into the platform to initiate automatically at the end of each VC. Seventeen questions qualitatively and quantitatively assessed several domains, including patient satisfaction and views on potential long-term use of the platform. Similarly, 12 questions were designed to evaluate clinicians' opinions about the platform, its use for training, ease of organizing prescriptions and potential future use. Data were recorded using a 5-point

scoring system (ranging from 'strongly agree' to 'strongly disagree'). Key themes from patient and clinician free-text responses were categorized according to common properties. In total, 149 patient responses have been collected over a 4-week period to date. Patients included were of all ages: < 18 years (27%), 18–30 years (26%), 31–69 years (31%) and > 70 years (14%). Fifty-five per cent of consultations were first attendances (45% follow-ups), 31% for a lesional skin problem and 33% for systemic treatment monitoring. The main findings were that 91% had a 'very good' or 'good' overall experience of AA, with 90% feeling that they were able to communicate everything they wanted and 87% feeling comfortable being examined over a VC. Eighty-seven per cent would choose VC over telephone consultation during the current pandemic. Sixty per cent would choose VC over face-to-face consultation after the pandemic. A common theme from free-text responses was that subgroups of patients who would find hospital attendances difficult had greater satisfaction with AA, including patients with physical or cognitive impairment, on long-term systemic/biological medication and who are carers for family members. We demonstrate that AA is a patient-friendly platform that can have a pivotal role in the short and long term in the dermatology outpatient setting.

CO19

Developing an online undergraduate small-group dermatology teaching programme during the COVID-19 pandemic

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Medical school undergraduates across the country have faced widespread interruptions to their training during the COVID-19 pandemic. Our department provides regular teaching to up to 27 fourth-year medical students each term, with three students shadowing each week and learning through a mix of observing in clinic and case discussions. The COVID-19 pandemic meant many students left campus and returned home, with a sudden halt in their training, and many subjects to cover in their busy curriculum. Rather than leave gaps in their dermatology teaching, a quick solution was devised with the medical school. Together, a consultant and registrar devised a 6-week online teaching programme. This was held with 15 students due to rotate through dermatology for the remainder of the term and made optional. Students had the opportunity to sign in to a weekly 1-h session on Microsoft Teams, broken up into segments of didactic teaching, interactive sessions and multiple-choice questions. Week 1 comprised introductory terminology, and giving students a chance to practice describing lesions. Weeks 2–5 were loosely based on the medical school curriculum on dermatology, but students were encouraged to suggest topics they wanted to focus on, e.g. emergency dermatology. Week 6 aimed to consolidate skills by interactive case-based discussions. These were sent to the students in advance to prepare before the session. These case studies have already been shared with members of British Association of Undergraduate Teachers of Dermatology

(BAUTOD). Eight of 15 students completed feedback at the end of placement, 100% of whom rated the course as excellent. The best-received parts were the interactive components and being able to dictate what topics to cover in more depth. The benefit of having two teachers throughout was the ability to create a more seminar-based atmosphere, and students felt comfortable to ask questions using the 'Chat' function. Students felt that there was good rapport and it formed a supportive network during the COVID-19 pandemic, when they were separated. The teaching session became available to more students across all year groups, but only the students due on pathway could contribute to the interactive component. The virtual aspect of the teaching meant that both the teachers and students were able to deliver and access it from anywhere, without having to be in the department. Following the success of the remote teaching course, the plan is to design a similar 9-week interactive, outcome-focused, case-based course and share this once again with members of BAUTOD.

CO20

Audit of early use of virtual clinics during the COVID-19 pandemic at a district general hospital and its implications for future practice

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The COVID-19 pandemic has changed how healthcare is delivered, with an emphasis on using technology to minimize hospital visits. In the dermatology department of a district general hospital, we describe our early experience of replacing face-to-face consultations with video or telephone consultations in response to COVID-19, including facilities for patients to email photographs. Alongside this major change, our patient cohort presents additional challenges with a high incidence of skin cancer, and an elderly population who may be less confident using technology (<http://www.ncin.org.uk/skin/laaa/atlas.html>). Data were collected over 43 days during May–July 2020 for nonsurgical appointments. Two hundred and eighty-four appointments were recorded. Average age was 55.5 years (range 0–97). Nineteen (6.7%) appointments did not go ahead; 18 did not answer and one was a prisoner for whom necessary preparations were not arranged. Of these, 13 were rebooked, five were discharged and one was booked for surgery based on photos. Of the appointments that proceeded, 210 (79.2%) used telephone only, 37 (14.0%) used video only, 15 (5.7%) used a combination and three (1.1%) were face to face. Reasons cited for not using video included 55 (25.8%) instances telephone deemed sufficient, 50 (23.5%) patients not ready on video software at appointment time, 38 (17.8%) not internet savvy, eight (3.8%) had not received the instruction letter, six (2.8%) had technical issues, three (1.4%) requested telephone consultation and two (0.9%) requested a face-to-face instruction. In the remaining 51 (23.9%), no reason was documented. For patients aged ≥ 65 years, 18 of 127 appointments (14.2%) proceeded by video vs. 27 of 155 (17.4%) in those aged ≤ 65 years.

Ninety-seven (36.6%) patients emailed photos beforehand and 48 (18.1%) were asked to provide photos afterwards. One hundred and nineteen (44.9%) virtual consultations avoided hospital visits; 43 patients were discharged and 76 had routine follow-up arranged. The data shows that, despite initial difficulty implementing, virtual clinics provide significant potential for reducing hospital visits. Elderly patients were less likely to achieve successful video calls and may benefit from focused support. It was noted anecdotally that patients receiving preparatory phone calls from administrative staff to explain the software had a higher uptake of video consultations. Going forwards, we plan to reaudit, evaluating the impact of administrative staff routinely contacting patients prior to appointments. In the long term, although virtual consultations cannot completely replace face-to-face consultations, this may become an increasingly utilized option reflecting patient choice.

CO21

Nationwide survey: impact of COVID-19 on Mohs micrographic surgery and service recommendations **P. Nicholson, F. Ali and R. Mallipeddi**

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The COVID-19 pandemic has overwhelmed and disrupted healthcare systems including dermatology services. We conducted a survey focusing on the impact of the pandemic on Mohs micrographic surgery (MMS) practices and invited all British Society for Dermatological Surgery members undertaking MMS to complete the survey over 3 weeks. Our findings are relevant for the restoration of MMS services and in preparation for a 'second wave' of COVID-19 cases or future pandemics. We received 47 responses (estimated 52% response rate). In the majority of departments (77%) doctors and nurses were redeployed to intensive care and medical wards. As a direct consequence, 49% reported that MMS services stopped. Free-text responses questioned whether the respondent felt that the level of redeployment was necessary or excessive (and at a cost to cancer services). Clinicians also highlighted that MMS was suspended owing to a lack of personal protective equipment (PPE). There was confusion around aerosol-generating procedure PPE and concerns the virus may persist in fresh frozen tissue (a risk for laboratory staff). Ninety-six per cent of respondents continuing with MMS rationalized patients. Where post-MMS reconstruction was performed in-house, 35% reported a decrease in proportion of grafts/flaps. Seventy-four per cent reported a decrease in proportion of external reconstructions by other specialties. Eighty-one per cent increased use of dissolvable sutures. Regarding postoperative care, 71% saw no change in prescribing prophylactic antibiotics, 29% reported an increase. Forty per cent reported that they were not reviewing patients for MMS consultations/follow-up appointments. Ninety-one per cent reported a decrease in face-to-face consultations; 86% and 50% reported an increase in telephone and video consultations, respectively. Several organizations have published guidance on treating nonmelanoma skin

cancers during the pandemic, but there is paucity of guidance on MMS. Seventy per cent of survey participants felt a unified decision from national bodies would be helpful. Deferring treatment will lead to tumour progression and increased tumour burden, resulting in more challenging reconstructions and an increased likelihood of metastasis. We propose several recommendations to minimize risks of COVID-19 and deliver MMS services safely. This is the first nationwide survey to demonstrate the impact of COVID-19 on MMS services; it highlights significant levels of redeployment and cessation of MMS services. While it is encouraging that departments have taken measures to reduce the number of face-to-face patient encounters and have rationalized patients for MMS, uncertainty remains on best practice. Multispeciality national guidance during this and future pandemics will help the safe and effective provision of MMS for patients.

CO22

Irritant contact dermatitis in healthcare workers as a result of the COVID-19 pandemic

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Healthcare providers at the forefront of the COVID-19 response are at constant risk of infection. International guidance recommends frequent handwashing and personal protective equipment (PPE) to help prevent contraction and transmission of the virus. However, evidence is emerging that these practices are causing adverse effects on the skin integrity of frontline healthcare workers (HCWs). This study aims to evaluate the degree of COVID-19-related dermatitis among frontline staff members from a large tertiary hospital in Ireland. A single-centre cross-sectional study of HCWs from a university hospital in Ireland was undertaken between 29 April and 13 May 2020. Approximately, 1000 online and paper surveys were distributed to hospital staff. Participants reported on the duration of PPE exposure, change in handwashing practices, symptoms of dermatitis and alleviating measures trialled. Data were collected in Microsoft Excel and the results were analysed using SPSS. Of the 270 participants in this study, 223 (82.6%) reported signs and symptoms of dermatitis. Hands were the most commonly affected site (76.5%) followed by the nose (13.7%) and cheeks (12.5%). The most frequently reported symptom was dry skin, with 75.4% of staff affected. Redness was described by 36.9% and 27.6% complained of itching. Virtually all (n = 268; 99.2%) HCWs reported an increase in frequency of handwashing; however, 122 (45.2%) staff members denied using emollients or other topical treatment. Atopy was not related to the development of dermatitis, but a personal history of dermatitis contributed significantly, with 55 (24.7%) of the dermatitis group citing a history of dermatitis vs. 4.3% of unaffected staff (P < 0.001). The dermatitis group recorded wearing PPE for an average of 3.15 h in comparison with the

nondermatitis group using continuous PPE for 1.97 h; however, this fell short of significance ($P = 0.211$). COVID-19 healthcare-related dermatitis is emerging as a significant problem. It is vital to promote awareness of this issue in order to provide appropriate prevention and timely treatment for our healthcare staff on the front line.

CO23 **Impact of the COVID-19 pandemic on minor dermatology operations at a tertiary centre** **N. Jakharia-Shah and V. Akhras**

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The COVID-19 pandemic resulted in the introduction of lockdown measures in the U.K. on 18 March. Hospitals reacted by restructuring their workforce and ceasing nonessential services. All registrars and many consultants from our dermatology department were redeployed to work on medical wards. Only skin cancer, emergency clinics and urgent minor surgery remained face to face. We assessed minor surgery activity levels, cancer conversion rates and diagnostic accuracy during the height of the pandemic, compared with the same period in 2019. All dermatology surgical cases and relevant electronic patient records from 18 March to 1 May were reviewed. In total, 166 biopsies were taken during this period, a 50% reduction compared with the analogous period in 2019. Sixty per cent of biopsies had been referred as 2-week-wait (TWW) rule patients. Of the patients biopsied, 17.5% had skin cancer: seven squamous cell carcinoma (SCC) and nine melanoma. Fifteen SCCs and seven melanomas were diagnosed over the same period in 2019. Fifty-two per cent of biopsies showed benign lesions (including mildly dysplastic naevi), with 9.6% inflammatory dermatoses histologically. Twenty-one per cent of biopsies showed precancerous lesions or moderate-to-severely dysplastic naevi. Twenty-five per cent of patients biopsied had no significant comorbidities. However, 4.2% were in the high-risk/extremely vulnerable group for COVID (organ transplant recipients, active cancer, severe asthma/chronic obstructive pulmonary disease, immunosuppressed) and 16.9% were in the moderate-risk/vulnerable group (> 70 years old, chronic lung/heart/liver/kidney disease, diabetes). Two high-risk patients had SCC, two moderate-risk patients had melanoma and two had SCC. Diagnostic accuracy for TWW referrals was 65.7% among dermatologists and 9.1% among general practitioners (GPs). The cancer conversion rate over this period for melanomas and SCCs was 9.6% (vs. 6.6% over the same period in 2019). Similar numbers of melanomas were diagnosed during lockdown vs. the same period in 2019, despite a 50% reduction in referrals for TWW. Cancer conversion rates for melanomas increased from 2.1% in 2019 to 5.4% in 2020. This suggests that GPs referred fewer benign lesions during the pandemic, assuming that melanoma incidence remained consistent. Twenty-one per cent of patients biopsied were in the high- or moderate-risk group for COVID, but only 17.1% of these patients had a high-risk skin cancer. Patients were not routinely assessed for risk factors for COVID prior to attending. Despite improved

cancer conversion rates during the height of the pandemic, conversion rates remain low, particularly in patients at risk for COVID. This underscores the need for measures such as GP education and teledermatology to rationalize TWW referrals and decrease footfall during the pandemic.

CO24 **Red flag referral management in a U.K. dermatology department during the COVID-19 pandemic: bucking the trend with a disaster-recovery approach** **V. Campbell, S. Raichura and O. Dolan**

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The COVID-19 pandemic heralded a new era of working within the National Health Service, and almost overnight deconstructed long-established routines. One of the most alarming trends to emerge is a reduction in cancer diagnoses vs. the period prior to the outbreak. In some countries, this effect has been most pronounced for skin cancers. With the onset of social distancing, the need to reduce hospital footfall and > 50% staff redeployment, our skin cancer service and red flag (RF) pathway was forced to redefine. Working from newly established guidelines, patients with skin cancer were risk stratified, taking into account any comorbidities that may increase susceptibility to COVID-19. Mohs surgery and the regional melanoma sentinel lymph node biopsy service were suspended. Treatment delays were reported to and centralized within the newly adapted telelink multidisciplinary meeting (MDM). Given such exceptional service disruption, we sought to evaluate the RF 'journey' during the pandemic. We retrospectively analysed RF referrals into our department from 25 March to 14 June 2020, comparing these with the same 3-month period in 2019. During lockdown there were 349 RF referrals from primary care, compared with 667 RF referrals in the corresponding 2019 period, with a 29% increase in MDM cases. In 2019, we diagnosed 14 squamous cell carcinomas (SCCs) and six melanomas, with a mean time from referral to outpatient assessment of 38 days, and 88 days to definitive surgical treatment. During lockdown we had capacity for 54 RF cases to be assessed face-to-face weekly. Thirteen SCCs and four melanomas were diagnosed, with the majority seen within 2 weeks. Pending histology for lesions clinically suggestive of SCC and melanoma, these figures may increase to 17 and seven, respectively. The higher pick-up rate during lockdown was despite only 21% of confirmed RF cases having been assessed by the referring general practitioner in person. The COVID-19 pandemic compelled our RF service to streamline, allowing for rapid access to standalone RF clinics with increased see-and-treat capacity. These strategic adjustments in a continually fluid working environment parallel a disaster-recovery model of service delivery. In contrast to the more familiar quality improvement approach, disaster-recovery methodology allows for interventions and concepts for change to be identified at the outset, with ad hoc data gathering. Despite the obvious challenges, it is reassuring that our skin cancer service maintained essential and urgent cancer

treatment. The success of this crisis-management approach serves as a reminder that even during adversity there can be opportunities for learning and service development.

CO25

The successful introduction of a hand dermatitis clinic to reduce occupational dermatoses during the COVID-19 pandemic

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The physical action of handwashing (for a minimum of 20 s) disrupts the lipid barrier of the COVID-19 virus and thus hand hygiene is one of the most important preventative measures to reduce and ultimately stop the spread of it. Prior to the COVID-19 pandemic, the estimated prevalence of occupational dermatoses was 20% for clinical and 7% for nonclinical staff in a population of U.K. healthcare workers (HCWs). Studies during the pandemic have shown an increased prevalence of hand dermatitis (HD) where the risk rises with increasing numbers of episodes of handwashing suggesting a 'dose-response' effect. Studies of occupational HD during the pandemic have largely been survey-based, performed in a post-hoc fashion. We established an in-person 'teach and treat' HD clinic for all staff, with two objectives: firstly, to treat occupational HD in a timely fashion, convenient to staff, enabling them to remain at work; secondly, to provide education regarding hand care and HD prevention. A proforma was developed to record the staff member's age, location of work, role and history of eczema. Brief targeted education regarding the regular application of emollient, and more intensive overnight treatment was designed. Two dermatologists staffed the clinic for 1 h, initially daily, reducing to three times a week

as demand reduced in an appropriately sized clinical area within the hospital. Personal protective equipment was worn, and social distancing measures adhered to. The proforma was completed by the attendees and examination was performed by the clinician. A Physician Global Assessment score was assigned, followed by delivery of the brief educational intervention. Topical steroid was prescribed if required. In total, 532 staff attended from 26 March to 6 May 2020 (6-week period). The majority were women (81%; $n = 432$) with a median age of 42.5 years. The majority of staff were ward based (51%; $n = 272$). Intensive treatment unit and accident and emergency staff represented 15% ($n = 82$), theatre staff 5% ($n = 28$) and the remainder outpatient, office-based or other (laboratory, etc.). Nursing staff represented 33% ($n = 177$) of attendees, doctors 22% ($n = 104$) and allied health professionals 21% ($n = 112$). The remainder were porters, administrative staff, scientists and housekeeping. Thirty-three per cent ($n = 178$) of attendees reported a previous history of eczema. The prevalence of HD was 88% ($n = 468$), graded as mild in 52% ($n = 276$), moderate in 26% ($n = 139$) and severe/very severe in 9% ($n = 50$). Topical steroids of different potencies were required in 42% ($n = 225$) of staff: moderate in 49% ($n = 111$), potent in 44% ($n = 100$), highly potent in 1.8% ($n = 4$) and mild in 0.8% ($n = 2$). A subset of attendees was approached to evaluate the clinic. All ($n = 10/10$) were very satisfied with the service. Copious informal feedback from colleagues suggests that this intervention was greatly appreciated. Review of the literature indicates that this cohort represents the largest reported number of HCWs evaluated in person for HD during the pandemic.