How would you support deployment of Far-UVC in your hospital?

Ewan Eadie, Photobiology Unit, Ninewells Hospital and Medical School, Dundee

Get ready for a thrilling, interactive adventure! Join us as we dive into the uncharted waters of Far-UVC technology using the dynamic audience engagement platform, Mentimeter.

Since the dawn of the COVID-19 pandemic, Far-UVC has emerged as a beacon of hope, promising to halt the spread of infectious diseases. Its proponents claim it is the silver bullet we've been waiting for—safe for humans and powerful against pathogens. But is this dazzling new technology our salvation, or are we unwittingly on the brink of creating a super-bug apocalypse that could spell the end of human civilization?

We'll plunge into a riveting hypothetical scenario where Far-UVC is deployed in your hospital. Are you a champion of this ground-breaking technology, or do you see it as a potential threat? How will you safeguard your staff, patients, and the public from the lurking dangers of optical radiation? And would you pass the scrutiny of a Health and Safety Executive (HSE) inspection?

Brace yourself for an immersive and thought-provoking session. We'll dissect the truth behind Far-UVC, scrutinizing the latest scientific literature and challenging everything we think we know. From the known knowns to the tantalizing unknowns, we'll explore it all with a blend of education, intrigue, and interactive engagement. Buckle up for a session that promises to both enlighten and entertain as we unravel the mysteries of Far-UVC together.

Original text by Ewan Eadie
Re-written by Microsoft Copilot

A Blueprint for Far-UVC in Healthcare: Air Quality Considerations, Research Priorities and Practical Guidelines

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Background. Healthcare facilities face unique indoor air quality challenges, balancing infection control measures with occupant safety and comfort. Far-UVC (200-235nm) technology offers promising infection control benefits, but like any UV-based technology, it can affect indoor air chemistry. Understanding these effects in healthcare settings is particularly important given sensitive patient populations, the continuous presence of cleaning and disinfection products, and complex ventilation requirements that are unlike most other indoor environments.

Methods. We analyzed indoor air chemistry considerations for far-UVC implementation through comprehensive literature reviews and interviews with experts across academia, industry, government, nonprofit, and healthcare sectors. Our analysis examined:

- Indoor air chemistry effects under hospital ventilation conditions
- Interactions with healthcare cleaning products and materials
- Effects on vulnerable patient populations
- Integration with existing hospital ventilation systems
- Monitoring and mitigation strategies

Results. Our analysis shows that hospital-standard ventilation rates (>6 ACH in most spaces) substantially mitigate ozone accumulation from far-UVC. At typical far-UVC implementation levels (1-2 μW/cm²) and standard hospital ventilation:

- Steady-state ozone increases remain below 3 ppb
- Secondary organic aerosol formation is limited by high air exchange
- Additional mitigation through standard activated carbon filtration can further reduce ozone levels

Research should characterize interactions between far-UVC-generated ozone and common hospital cleaning products, particularly oxidizing agents and disinfectants. Work is needed to understand potential effects in areas with immunocompromised patients or those with respiratory conditions. Studies should also examine synergies between far-UVC and existing hospital air handling systems, including opportunities for integrated ozone mitigation through existing filtration.

Conclusion. Healthcare facilities have advantageous conditions for far-UVC implementation, with high ventilation rates that can effectively manage potential air chemistry effects. Initial deployment can focus on areas with robust ventilation while developing protocols for spaces with more complex air handling requirements.

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Review of Ultraviolet (UVA1) Phototherapy at Guy's and St Thomas' NHS Foundation Trust

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Background

Long wavelength ultraviolet UV (A1) phototherapy is effective treatment for a range of chronic inflammatory skin diseases, including atopic dermatitis, scleroderma, lupus erythematosus, lichen sclerosus, cutaneous T-cell lymphoma, morphoea, graft versus host disease (GVHD) most often resistant to other forms of ultraviolet phototherapy and or tropical treatments[1, 2].

UVA1 phototherapy is delivered by exposure to medium (approximately 40-60 Jcm^{-2}) or high doses (up to 130 Jcm^{-2}) of long wavelength UVA radiation between 340-400 nm from purpose designed therapy equipment that is capable of delivering such high doses of UV radiation[1,2]. Unlike standard UV phototherapy fluorescent lamps, the high output required for UVA1 phototherapy demands the use of other lamp types e.g. high output metal halide lamps associated with high electrical power consumption and heat generation requiring special cooling mechanisms and additional dissipation burdens. Due to the long exposure times required for treatment and the frailty of some cohorts of patients, therapy beds are most often utilized for whole body treatments to allow patients to lie down for their treatment. UVA1 phototherapy treatment is rare compared to other forms of phototherapy. There are only a few centers in Europe[2] and currently only three centres in the UK[3].

Guy's and St Thomas NHS Foundation Trust is one of three centers that has been providing UVA1 phototherapy in the UK since 2007 when our Sellamed 2400 UVA1 bed (Sellas Medical Devices GmbH, Gevelsburg, Germany) was installed. A wide range of patients have been treated over the years but the device in the last couple of years has developed issues affecting output optimisation, heat generation and dissipation leading to frequent breakdowns and causing interruption in the clinical service. This study is a review of the current state of UVA1 phototherapy treatment at Guy's and St Thomas' NHS Foundation Trust and a comparative study between our existing therapy equipment and current alternative replacement options.

Methods & Results

A retrospective analysis of treatment data will be conducted with a view to offer insights into service demand, efficacy and overall benefits to patients. The comparison between the current Sellamed 2400 bed, and other commercially available treatment equipment was performed. Considerations includes technical and engineering performance, output specification, irradiance uniformity, treatment exposure times, ongoing maintenance support and running costs. Patient and staff safety were also taken into consideration. Although the Medisun Xenia UVA-1 Bed (by Schulze & Böhm GmbH), the closest alternative to our current Sellamed 2400 performed well in other aspects, the UVA1 output was very low (approximately 50% lower) than our Sellamed 2400. This raises concern for treatment as exposure times would double. The high visible blue light content from the device also raises concern for patient and staff safety. Another alternative replacement option is being considered.

Conclusion

UVA1 phototherapy at Guy's and St Thomas NHS Foundation Trust has been beneficial for managing patients with inflammatory skin diseases**.** Our existing therapy equipment is under performing due to aging and plans for a replacement has been faced with difficulties in sourcing a suitable device. This case highlights the current challenge facing phototherapy services in UK generally and more specifically UVA1 phototherapy due to very limited phototherapy equipment manufacturers compared to other medical equipment.

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Title of Study: Procurement options for a new UVA1 treatment unit

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Background. High Irradiance Ultraviolet A1 (UVA-1) therapy (340nm and 400nm) has been in clinical use for over 40 years. However high-quality evidence to support its effectiveness is limited. UVA-1 is advantageous over other wavelengths as it can penetrate to the deeper skin layers influencing T cells and activation of endothelial cells to promote neovascularization. Its principal use has been in the treatment of atopic eczema and fibrosing skin disease such as morphoea. Adverse effects, in particular symptomatic erythema is less compared with other forms of phototherapy.

Methods. As part of a procurement exercise to replace an existing high irradiance UVA1 system the current units available to deliver this treatment were assessed. The key criteria when evaluating each system were irradiance levels, spectral output, installation, patient access, and maintenance support.

Results. The Xenia 'open' bed system is supplied and maintained by Athrodax; uses 5kW lamps both above and at the side of the structure. Estimated treatment time for 60J/cm^2 is estimated to be approximately 30-35minutes. It has minimal pre-installation requirements and can be installed in 1-2 days. Analysis of the output spectrum indicates 50% of the energy is delivered between 340nm to 400nm and 50% 400nm-460nm. There are no known clinical benefits for the light output between 400nm and 460nm and the risks are unknown. One advantage of this system compared to the two systems is that the number of lamps activated during treatment can be configured by the operator.

The open Sellamed 2400 bed system has lamps which deliver 90% of the energy between 340nm - 400nm. The unit can deliver up to 60mW/cm^2 when the lamps are new at the surface of the bed. The system requires a dedicated air-cooling system, but this is relative straight forward to configure particularly if the unit is installed next to an outside wall. Overall installation time if the cooling has been configured is estimated to be 1-2 days. The unit must be procured directly from Germany, as there is no United Kingdom based supplier and this includes any routine maintenance which may be problematic if the unit breaks down or replacement parts are required.

The ML2400 unit is supplied and maintained in the UK by Scott medical. This is a 'stand -up' treatment system. It has four banks of 6 lamps arranged vertically and equidistant from each other. The output spectrum is similar to the Sellamed 2400 unit and the manufacturer's quoted output is 60mW/cm^2. Access to the unit is limited due to aperture of the cabinet entrance and this may preclude some patients with a high BMI from being treated which may be the main disadvantage of this unit. Enabling works for the installation ML2400 are significant and expensive as it requires a dedicated be-spoke cooling systems.

Discussion. Each system has both advantages and disadvantages and departments who want to procure a system must carefully consider their patient cohort and pre-installation requirements.

Conclusion. Due to the cost and need to provide specialist scientific support the use of these systems is limited to tertiary referral centres. However, there are only three sites in the United Kingdom that currently have one of these units and there is probably justification to extent this further when considering their potential clinical impact.

Key references.

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Investigating Photoprotective Properties of Common Fabrics from Popular UK Retail Stores

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Background: Clothing is one of the most effective protective measures against photodamage caused by ultraviolet radiation (UVR) and visible light (VL). Recognized by leading health agencies worldwide, advancements in textile technology have enhanced the photoprotective capabilities of garments [1,2-4]. The ultraviolet protection factor (UPF) is commonly used to characterize the protective properties of clothing, while the visible light protection factor (VLPF) and photosensitivity protection factors (PpIX-PF) are less frequently assessed [1,4]. These protective factors are vital for high sensitivity patients where their skin reacts more readily to lower doses of UVR and/or visible light, in comparison with a non-sensitive individual. Our goal is to explore the photoprotective properties of everyday clothing items in order to offer more informed recommendations for patients who are particularly sensitive to sunlight exposure.

Methods: Fabric samples are cut into 5cm x 5cm pieces from the body of the clothing. These samples are then placed in a spectrophotometer equipped with an integrating sphere (JASCO 60mm UV-Visible/NIR), and measurements are taken across the wavelength range of 290 nm to 800 nm with a step size of 1 nm. Each sample is measured three times and the average value is used for analysis. The UPF values are then calculated using the transmission of light through the sample, the spectral irradiance and the CIE erythemal action spectrum [5] between the wavelengths of 290 to 400 nm. The percentage of UVA and UVB blocked is also calculated, as well as the percentage of visible light blocked between the wavelengths of 400-469 nm. The first initial samples consisted of three black t-shirts, one navy t-shirt and one pair of cycling shorts. For further testing 30 additional products from four different UK retail stores will be purchased.

Results: The table presents the UPF values and the percentage of various wavelength ranges blocked for the first five samples tested. Sample 1, the pair of cycling shorts, demonstrates the highest level of protection with a UPF value of 1986 and greatest percentage blocked in the different ranges of wavelengths. In contrast, Sample 5, a black t-shirt, offers the lowest level of protection. However, all samples meet the "excellent" protection category according to the European standard for sun-protective clothing [4].

	UPF	% of UVA Blocked	% of UVB Blocked	% of VL Blocked
Black Cycling Shorts	1986	99.93	99.96	99.91
Black Tesco T-Shirt	138	99.18	99.26	99.24
Navy ASDA T-Shirt	116	98.99	99.17	98.97
Black ASDA T-Shirt	150	99.23	99.32	99.24
Black EASY T-Shirt	87	98.70	98.84	98.78

Discussion: The UPF values calculated from the initial five samples align with previously measured values from UK Health Security Agency which were obtained using a spectrophotometer without an integrating sphere. The high UPF values observed across the different samples indicate that these garments offer strong photoprotection, although the variability between results suggests that fabric composition, such as weave patterns, contributes to the level of protection provided.

Conclusion: The testing of various fabric samples demonstrates that everyday clothing can provide significant photoprotection, with high UPF values and varying levels of visible light blocking. This highlights the potential for patients to benefit from a broader selection of clothing, beyond just UPF-rated garments, for effective sun protection.

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Title of Study: Assessment of Ultraviolet Radiation Doses from Hand and Foot units. Are spot measurements satisfactory?

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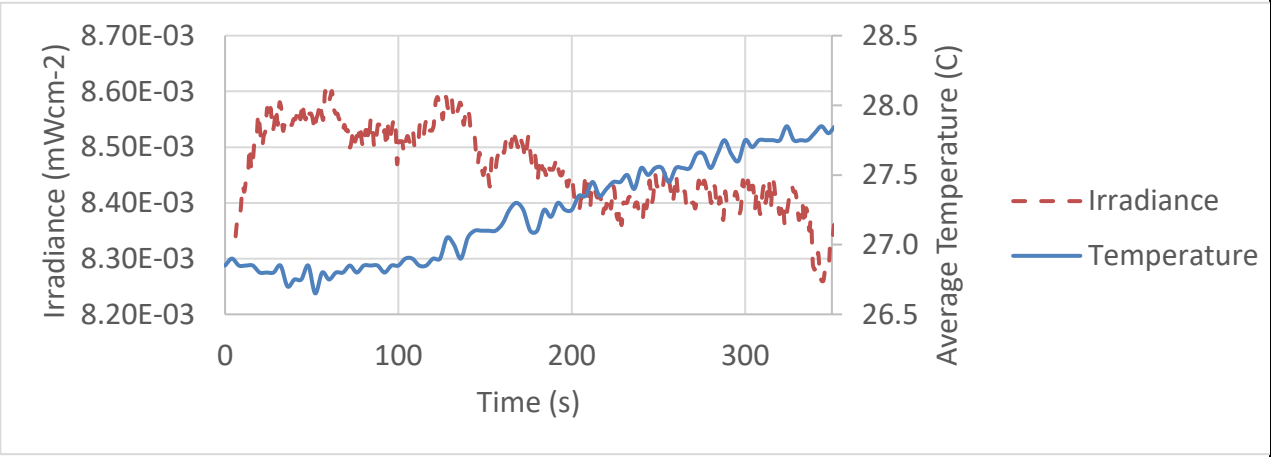
Background. Taylor [1] and Grimes [2] have both identified that the temperature of narrowband Ultraviolet B (nB UVB) tubes is important when considering the dose a patient receives at each cycle. This particularly true at higher doses between 4J/cm^2 and 5J/cm^2. However, this factor is often overlooked by clinical scientists and technologists when performing machine performance verification.

Methods: Anecdotal measurements acquired at a recent assessment of irradiance demonstrated that there was temporal variation from the palmar hand module (module 2) of nB UVB treatment unit at long exposure times.

The irradiance and temperature of the palmar hand module were measured using an SED0240 detector with an ILT 2400 meter at 1 sample per second. Thermal images were collected using a FLIR SC300 thermal imaging camera.

Results: The collected measurements demonstrate that at longer treatment times, the irradiance output of the palmar hand module decreases as the temperature rises. This highlights the importance of considering temperature when estimating radiation exposure to patients undergoing nB UVB treatments.



Discussion. The variation in the collected irradiance data suggests that spot irradiance measurements may be insufficient to characterise equipment output for longer treatment times, and that quadratic modelling is more accurate (as long as at least 3 minutes of data is collected). Further, the collected measurements highlight the need to consider the effect of temperature on the dose received by patients during nB UVB treatment units (e.g. by including use of air conditioning systems in treatment protocols, and establishing proper functioning of in-built cooling systems).

Conclusion. The process of assessing irradiance in hand and foot units needs to be re-evaluated with greater emphasis placed on integrated time estimates based on actual irradiance values and validated mathematical modelling.

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Comparison of the efficacy and safety of the MED test with the Fitzpatrick scale for assessing the initial dose of UVB treatment in patients.

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Background.
Handheld narrow-band UVB Minimal Erythema Dose (MED) testing devices are used to assess a patient's sensitivity to UVB radiation, offering a tailored approach to treatment compared to the traditional visual skin type classification scale[1, 2]. This method is used in some hospitals but not in our Trust, which uses the Fitzpatrick scale to determine the initial UVB treatment dose for a patient[3]. The aim of this project was to safely implement the MED tester in the dermatology department of our hospital and to compare its effectiveness with the method currently used.

Methods.
The patient's skin condition and disease severity were assessed by clinical phototherapy staff using established protocols. Further skin assessment was carried out to determine whether the MED tester could be used to determine the initial UVB treatment dose. Skin area exposed to MED device was checked 16-24 hours after testing. The initial UVB treatment dose (J/cm^2) was based on 70% of the MED tester readings. The MED test has been evaluated in parallel with the existing method. The two methods were compared using two-tailed student t-tests on data collected from the two clinics between May 2023 and March 2024.

Results.
Data was collected from 74 patients but the study ultimately included analysis of data from 51 (69%) patients (23 females and 28 males) aged between: 21 and 84 (mean age: 49 years), with skin type between I and VI, and with various skin conditions. Twenty-nine patients (57%) received a higher initial treatment dose and 20 patients (39%) received a lower initial treatment dose based on the 70% of the MED tester reading than the initial treatment dose based on their skin type ($p<0.05$). In two patients (4%), the initial dose of 70% MED was the same as the dose based on their skin type. One patient with skin type IV was tested twice with MED, showing sensitivity to all test doses, including the lowest dose of 0.08 J/cm^2. Nineteen patients, except one with skin sensitivity to UVB, started treatment with a lower UVB dose based on MED measurement and received an average of 2 (range: 1 to 4.5) additional treatments. The 29 patients who started treatment with a higher dose of UVB based on the MED reading received an average of 1.8 (range: 0.5 to 4) fewer treatments. In total, 12 fewer treatments were given during this period.

Discussion.
The MED testing device cannot be used on all patients as it requires the presence of an unaffected area of skin to apply the device but most patients are eligible for MED assessment. MED testing helps identify patients that are more photosensitive, that would be at a higher risk of erythema when using the Fitzpatrick skin type assessment. More patients started treatment at higher doses compared to the Fitzpatrick skin method, reaching therapeutic doses faster and with fewer hospital visits. Patients who received a lower initial dose had a lower Fitzpatrick skin type. Although these patients required more clinic visits, they had a lower risk of erythema.

Conclusion.
The use of the MED tester allows patients to start with a dose optimised for their individual needs, resulting in safer and more effective UVB treatment. Overall, patients required fewer treatments, with 12 visits (4 hours) saved over the trial period. This improved the patient experience with fewer hospital visits and freed up clinical resources to treat more patients (potential service cost benefit).

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An investigation into eye protection for patients receiving PUVA therapy

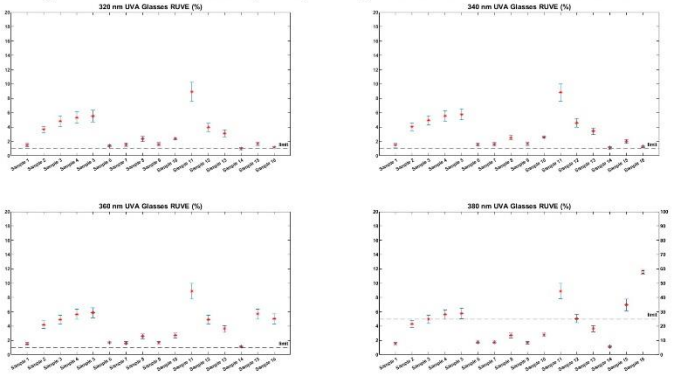
Abstract

This study investigated the effectiveness of ultraviolet (UV) protection provided by various types of eyewear for patients who have ingested psoralen. Psoralen is administered as part of PUVA photochemotherapy and is consumed two hours prior to ultraviolet-A (UVA) exposure. For 12 to 24 hours following psoralen ingestion, patients face an increased risk of ocular damage from UV light sources. Therefore, it is critical for PUVA patients to wear effective eye protection during this period.
The study evaluated a range of eyewear, including commercially available sunglasses of different styles, prescription sunglasses, reading glasses with and without UV protection, UV-protective eyewear, and eyewear specifically recommended to PUVA patients by the author's PUVA therapy unit. A spectrophotometer was used to measure the UV transmission of the lenses. Additionally, relative UV exposure was assessed using a combination of a spectroradiometer, a life-size human head dummy, and a UVA lamp. The lens UV transmission results were compared with the relative UV exposure findings.

Table 1. Lens transmission rate measured by spectrophotometer

	320 nm	340 nm	360 nm	380 nm
Sample 1	0.0%	0.0%	0.0%	0.0%
Sample 2	0.0%	0.0%	0.0%	0.0%
Sample 3	0.0%	0.0%	0.0%	0.0%
Sample 4	0.0%	0.0%	0.0%	0.0%
Sample 5	0.0%	0.0%	0.0%	0.0%
Sample 6	0.0%	0.0%	0.0%	0.0%
Sample 7	0.0%	0.0%	0.0%	0.0%
Sample 8	0.1 ± 0.0%	0.0%	0.0%	0.5 ± 0.1%
Sample 9	0.0%	0.0%	0.0%	0.0%
Sample 10	0.0%	0.0%	0.0%	0.0%
Sample 11	0.0%	0.0%	0.0%	0.0%
Sample 12	0.0%	0.0%	0.0%	0.0%
Sample 13	0.0%	0.0%	0.0%	0.0%
Sample 14	0.0%	0.0%	0.0%	0.0%
Sample 15	0.0%	0.0%	0.0%	0.0%
Sample 16	0.0%	0.0%	3.2 ± 0.3%	56.3 ± 3.6%

Figure 1. Relative UV exposure (RUVE) for all eyewear measured by spectroradiometer



The results indicated that while standard UV-protective eyewear effectively reduced UV transmission through the lens, some failed to meet protective standards under realistic use-case scenarios. This highlights that lens transmission measurements alone are insufficient to represent the actual protection effectiveness of the eyewear. Factors such as eyewear style and wearing position significantly influence UV protection during the period of psoralen photosensitisation.
Based on these findings, it is recommended that small-sized glasses be avoided for PUVA patients. Furthermore, the wearing position of the glasses should be carefully monitored to ensure optimal protection against UV radiation.

Key words:
PUVA Therapy, Photoprotection, Eye Protection, Eyewear Safety, UV Irradiation Measurement

Normal erythema ranges in diagnostic phototesting

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Background. Diagnostic phototesting is a specialist technique used in photodermatology units to investigate individuals suspected of heightened sensitivity to ultraviolet or visible light [1]. Heightened sensitivity is defined as a skin reaction, often erythema, occurring at a lower dose of ultraviolet or visible light than a non-photosensitive person would react to. Unfortunately there are only a few published reference ranges for non-photosensitive populations [2-4]. These ranges are specific to the population being investigated and dependent upon the equipment used. Despite these limitations, the published ranges are used by multiple centres to define the lowest normal minimum erythemal dose (MED) in their diagnostic service [1]. We wished to explore whether an equipment independent reference range could be produced by expressing in units of Standard Erythemal Dose (SED).

Methods. The Photobiology Unit undertook a study in 2009 to determine a non-photosensitive population reference range for diagnostic phototesting following the introduction of a new irradiation monochromator (Bentham Instruments, Reading). Fifty volunteers were irradiated with a range of wavelengths and doses of optical radiation. The results of this study were not published; they were implemented in the clinical service and are similar to values for earlier monochromators [2]. Using the spectral irradiance of the irradiation monochromator from 2009, and the CIE erythema reference action spectrum (EAS) [4] we converted the reference range (a 95% reference interval) from units of $mJcm^{-2}$ to units of SED.

Results. The table shows the reference range from 2009 in terms of both $mJcm^{-2}$ and converted to SED. As shown, the reference range in SED is similar across the wavelengths delivered. The exception is at 335 nm ± 27 nm (half maximum bandwidth [FWHM]). These wavelengths are at a part of the EAS where there is a steep change in erythema response [5]. A small modification to the EAS improved agreement (Modified EAS Ref Range (SED)).

Wavelength ± Bandwidth at FWHM (nm)	Ref Range ($mJcm^{-2}$)	Ref Range (SED)	Modified EAS Ref Range (SED)
295±5	6.8 to 22	0.74 to 2.30	0.74 to 2.30
300±5	12 to 48	0.71 to 2.77	0.71 to 2.77
305±5	33 to 120	0.66 to 2.58	0.66 to 2.58
335±27	3,900 to 22,000	1.01 to 5.3	0.76 to 4.00
365±27	18,000 to 68,000	0.73 to 2.84	0.73 to 2.84
400±27	56,000 to >82,000	0.75 to >1.58	0.75 to >1.58

Discussion. Expressing the non-photosensitive reference range in SED shows small variation between wavebands. The EAS was not a perfect match for our volunteer population and we demonstrated that a small adjustment to the EAS yielded more consistent results. Whilst it may be useful to report photosensitive patient results in terms of SED, it remains important to also report results in terms of $mJcm^{-2}$ as abnormal photosensitivity conditions do not all follow the standard erythema curve (that is, the abnormal reactions can be quite different to sunburn erythema).

Conclusion. Our results suggest that a reference range expressed in SED is reasonably wavelength, and therefore equipment, independent. This may allow other photodiagnostic centres to utilise this range but only if they have a similar test population..

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BAUS and BMLA recommendation on the use of protective eyewear in Endourological laser procedures

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(BAUS and BMLA working group)

Background: Endourology lasers such as Holmium YAG and Thulium devices are used to treat benign prostatic hyperplasia, and kidney or ureteric stones. While these lasers are very effective, they can also pose a risk to staff members who are not properly trained or who do not take the necessary precautions.

Methods and Results: The most serious hazard to staff associated with endourology lasers is probably corneal eye injury although there these lasers have caused a very small number of operating room fires and skin burns. The risks can be almost eliminated by appropriate management of the laser fibre with the use of personal protective eyewear (PPE). However, the use of PPE has some major disadvantages including obstruction of vision; distraction; discomfort; cost; management overheads; potential for cross contamination between multiple users from the same set of eyewear. Due to these disadvantages along with the perception that endourological procedures with lasers operating around 1900nm to 2100nm carry a low risk of ocular injury, the application of safety measures currently varies between organisations and individuals in the UK. The continued use of personal protective eyewear has also met a lot of resistance from some Urologists who see them as un-necessary.

Discussion and conclusion: This talk puts forward a summary of evidence; arguments based on a risk and observational approach that protective eyewear is probably not necessary when using Endourology lasers. A joint publication between BMLA, BAUS and IPEM is in the process of being finalised for the British Journal of Urology International. Different options and recommendations are put forward for discussion.

UK Recommendations for Eye Protection in Endourological Laser Procedures

Submitter's details:

Dr Tom Lister

Tom is a non-ionising Clinical Scientist and the Lead Healthcare Scientist for Somerset NHS and Somerset Integrated Care System. He is a certificated Laser Protection Advisor and an assessor for the RPA2000 LPA certification scheme. Tom contributes to national and international groups, including the European Laser Association, the British Medical Laser Association, and the British Standards Institute's group on optical radiation safety and laser equipment. He is also an associate editor of Lasers in Medical Science and is engaged in laser and optical radiations research.

Abstract no more than 1 page in Arial 11 point, presenting speaker underlined

Upcoming Regulatory Changes for Cosmetic Laser Treatments in England and Scotland

The regulation of cosmetic laser treatments in the UK is due to undergo significant change. Wales and Northern Ireland have national regulatory frameworks overseen by Healthcare Inspectorate Wales (HIW) and the Regulation and Quality Improvement Authority (RQIA) respectively. England and Scotland currently lack national regulations for non-regulated professions but may now be moving back towards greater oversight.

Currently, the use of cosmetic lasers is regulated at a local level by individual councils in England, leading to inconsistencies in standards and enforcement. However, a government consultation is underway to introduce a national licensing scheme for non-surgical cosmetic procedures, including laser treatments. Similarly, Scotland is consulting on new licensing requirements to improve patient safety and professional accountability.

This talk will explore the key proposals in both consultations, their potential impact on practitioners and clients, and the likely direction of future regulation. Attendees will be invited to share their views on how these changes may shape the industry, their potential for implementation, and the broader implications for laser safety.