Lichen Sclerosus Priority Setting Partnership Final Report

Identifying the most important questions for research

University of Nottingham
UK | CHINA | MALAYSIA


James Lind Alliance
Priority Setting Partnerships

BSSVD
The British Society for the Study of Vulval Disease

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SUPPORTING PARTNERS

- Australian and New Zealand Vulval Society (ANZVS)
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- British Dermatological Nursing Group (BDNG)
- British Society for Paediatric Dermatology (BSPD)
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- Pelvic Relief
- Primary Care Dermatology Society (PCDS)
- Society for Academic Primary Care (SAPC)
- UK Dermatology Clinical Trials Network (UK DCTN)
- Vulval Pain Society

Foreword

Dr Rosalind Simpson
Associate Professor
and Consultant Dermatologist

Lichen sclerosus is the most common inflammatory skin condition affecting the genital area. Given that it is thought to affect upto 3% of women and probably a similar proportion of men, we know relatively little about it. It is a neglected area of health. Accurate figures for the number of people affected (men, women and children) haven't even been established. People with lichen sclerosus suffer distressing and uncomfortable symptoms, can have difficulty in the daily activities that most people take for granted, and live with the knowledge that there is a risk of scarring and potential cancerous change. Therefore lichen sclerosus impacts not only on physical health, but also on psychological health and overall quality of life.

In 2015, a 'call' to fund a lichen sclerosus clinical trial was advertised by the National Institute for Health Research's Health Technology Assessment (NIHR HTA) program. This was met with great enthusiasm by a team of researchers who wanted to develop a study that had potential to improve care in this area. However, after preliminary work with patients and health professionals, it was felt that the **specific research question** proposed by the NIHR was **not of the highest priority to people affected by the condition**. We were concerned that if the proposed study went ahead, the funding might effectively end up 'wasted' if the study wasn't successful or if people weren't really interested in the results.

The research call was not funded off the back of this preliminary work, but instead, we set to find out **exactly what questions are of the highest priority** and therefore worth pursuing further. This was the beginning of the **Lichen Sclerosus Priority Setting Partnership**, funded by the British Society for the Study of Vulval Disease.

As the lead for this project, it has been both incredibly challenging and rewarding to produce a list of 10 questions that are important to all groups who are affected by lichen sclerosus. The process has highlighted how much need there is for further understanding of this condition as well as for improved knowledge and awareness amongst the public and the wider medical community. I hope that this project will raise the profile of lichen sclerosus and lead to better quality, relevant research that will improve recognition of the condition and enhance overall delivery of care.

Steering Group

Patient representative/s (initials used for confidentiality)

- **Mrs MD**
- **Ms HB**
- **Miss LH**
- **Mrs Suzanne Larsen**

(Lichen Sclerosus Association Denmark Representative)

- **Dr SR (Relative and researcher)**
- **Mrs SS (Parent Representative)**

Clinical representatives

- **Dr Rosalind Simpson, Research Fellow and Dermatologist**
- **Dr Ruth Murphy, Consultant Dermatologist**
- **Dr Susan Cooper, Consultant Dermatologist**
- **Dr Gudula Kirtschig, Consultant Dermatologist**
- **Mrs Sandra Lawton, Nurse Consultant**
- **Mr David Nunns, Consultant Gynaecologist**

Thank you to the two clinical representatives who participated, but were unable to complete, the process

Researchers (non-clinical)

- **Kim Thomas, Professor of Applied Dermatology Research**

Independent Chair

- **Maryrose Tarpey, Independent James Lind Alliance (JLA) Advisor**

Additional support

- **Margaret McPhee, Research co-ordinator and administrator**
- **Emma Smith, Research Assistant**
- **Richard Merely - Facilitation of the final workshop**
- **Patricia Ellis - Facilitation of the final workshop**

Executive summary

Introduction

Lichen sclerosus (LS) affects at least 1% of women, probably the same proportion of men, and sometimes children. It is a predominantly genital skin condition that has considerable impact on day to day life and psychosexual health. It causes itching and scarring that can tighten the skin and interfere with passing urine and sexual intercourse. There is a small chance of cancerous change within areas affected by LS. In children, tightening of the skin around the anus may aggravate any tendency to constipation, and skin changes caused by LS may sometimes be mistaken for sexual abuse.

Despite this, it is relatively under-researched, especially in women and children, and prospects for research are under-funded, especially when compared to other conditions with similar prevalence, such as rheumatoid arthritis.

We know that there is often a mismatch between the things that patients, carers and health professionals would like to have researched and what is actually researched[1], and that a proportion of research funding is 'wasted' on answering questions that aren't of a high priority[2]. Furthermore, involving patients in the research cycle adds considerable value to the research and relevance of the research delivered. **It is therefore essential that any funding for future research into LS is spent effectively in areas that are of the greatest importance to those most directly affected by LS.**

The '**Lichen Sclerosus Priority Setting Partnership**' was set up to identify future research priorities about the causes, diagnosis, management and prevention of LS in men, women and children. This project was a collaboration between the **British Society for the Study of Vulval Disease** *(Funder)*, the **University of Nottingham** *(Project lead and coordination)* and the **James Lind Alliance** *(Independent oversight)*.

Executive summary

The Process

The James Lind Alliance standard, transparent method was used to complete this project. There were 4 key stages that took place (*Figure 1*). A Steering Group consisting of patients, patient representatives, health professionals and researchers/coordinators was established. A James Lind Alliance adviser was allocated to independently oversee the entire process. From September-October 2017 we conducted the first of two online surveys using SurveyMonkey™.

Stage 1: Information Gathering	Stage 2: Data analysis	Stage 3: Interim Prioritisation	Stage 4: Final Prioritisation
• Participants were asked to submit up to five questions they had about LS • Literature search performed to obtain research recommendations from key reference documents	• 'Raw' questions counted, grouped and refined to form 'unique uncertainties' • Out of scope questions removed • Uncertainties checked to ensure they weren't already answered by research	• A second survey asked people to select their 10 most important questions from the uncertainties identified in stage 1 • Shortlisting of the top-rated uncertainties to be discussed at the final workshop	• Workshop held on 7th June 2018 • Attended by patients, parents of children with LS and health professionals • Consensus methods used to establish the 'Top 10' priorities

Figure 1: Stages of the Priority Setting Partnership

These surveys were promoted by partner organisations and social media to reach a wide community of international stakeholders. Survey 1 gathered the **views of 652 people** who were patients/carers/relatives or health professionals. **Over 2500 questions about LS were submitted**. These questions were then analysed by grouping similar questions into themes. In addition to survey questions, additional questions were identified from three key systematic reviews and guidelines in the scientific literature. This 'information gathering' process resulted in **38 unique questions** that had not already been answered by research ('uncertainties').

A second 'interim prioritisation' online survey (March-April 2018) was completed by **954 people**. Participants were asked to select their 10 most important questions from the 38 uncertainties identified during stage one. The top-rated uncertainties overall, plus the most important uncertainties from each of the stakeholder groups (health professionals, females, males and children) were selected to form a shortlist of 23 questions.

These 23 questions were discussed by a range of patients and healthcare professionals at a face-to-face workshop (London, June 2018). Using consensus methods with a combination of small and large group discussions, the 'Top 10' Research Priorities were established.

Top 10 Research Priorities for Lichen Sclerosus

1	What is the best way to **prevent and manage anatomical changes** caused by lichen sclerosus?
2	What is the best way to **diagnose** lichen sclerosus (diagnostic criteria)?
3	What **surgical treatments** should be offered for lichen sclerosus?
4	Are there **effective topical treatments *other than topical steroids*** in the treatment of lichen sclerosus?
5	What is the **risk of developing cancer** in patients with lichen sclerosus?
6	Which **aspects** of lichen sclerosus should be **measured to assess response** to treatment?
7	Can lichen sclerosus be **prevented from occurring** and **what are the trigger factors**?
8	Is it **necessary to continue treatment** for patients with lichen sclerosus **who do not have any symptoms and/or signs of disease activity**?
9	What is the **impact on quality of life**?
10	Does the **disease course** of lichen sclerosus **differ** in boys and girls, adult males and females?

Full report

Introduction and background

Lichen sclerosus is the most common inflammatory skin condition affecting the genital area.
It causes a variety of symptoms, for example, intense itch, pain and splitting of the genital skin. The physical appearance and function of the genitalia can be affected due to scarring. In females, lichen sclerosus causes narrowing of the vaginal opening and burying of the clitoris. In girls it often leads to constipation and may be mistaken for sexual abuse. In boys and men, difficulty passing urine and a tight foreskin occurs, often requiring circumcision. The psychosexual impact of lichen sclerosus can be significant. Furthermore, people with the condition also appear to have an increased risk of genital cancer.

This is an under-researched and under-funded area of health, especially in women and children. Due to lack of published high quality evidence, there are many unanswered questions (uncertainties) about lichen sclerosus. It is also unclear whether findings of research done to date in specific groups of people with lichen sclerosus can be extrapolated to other groups. There is a great need for further research into the diagnosis, treatment and prevention of this condition. It is crucial that limited resources available are spent on research that is most relevant to those affected as these are the groups who will benefit most.

There is often a mismatch between the things that patients and carers would like to see researched, and what research is actually being done[1]. It has also been suggested that when these priorities don't match the concerns of those who 'use' the research findings, the research investment is potentially wasted[2]. It is essential that we know what the priorities are for those most directly affected by lichen sclerosus so that research resources can be best allocated.

The **Lichen Sclerosus Priority Setting Partnership** (PSP), independently overseen by the **James Lind Alliance** (JLA), was created to ensure that patient, carer and healthcare professional voices are represented in setting research priorities for lichen sclerosus.

Project Scope

- Due to lack of existing knowledge about lichen sclerosus, the Lichen Sclerosus PSP had a wide scope.
- An early decision was made by the Steering Group to address questions about the causes, diagnosis, treatment and prevention of lichen sclerosus. This included questions relevant to all people affected by the condition – men, women and children.
- Questions relating to service provision, provision of care and epidemiological-based questions were excluded.

Methodology

A **Steering Group involving a range of patients and health professionals** was formed to ensure that the project met its objectives. The James Lind Alliance standard, transparent method, consisting of four key stages was followed (see Figure 1)

Stage 1: Initial survey

We gathered questions from people with lichen sclerosus, parents of children with lichen sclerosus and health professionals via an international public survey. The survey was available online from 1st September to 16th October 2017.

The steering group developed a single questionnaire for all survey participants, which was uploaded online via SurveyMonkey™. Methods used to publicise the survey were: social media and email campaigns to relevant groups; advertisements and links within stakeholder web sites; Steering Group members' personal networks; and posters for display in specialist treatment centres.

Survey respondents were asked the following:

> **Please could you suggest a maximum of FIVE questions about lichen sclerosus that you would like to know the answer to. Your questions can be about the causes, diagnosis, treatment and prevention of lichen sclerosus.**

An additional research question was asked to establish the most important outcomes of lichen sclerosus treatment. Data from this question will be analysed and reported separately:

> **What are the three most important symptoms or aspects of lichen sclerosus that you'd like treatment to improve? You can list up to THREE. Examples of this could be 'itching' or 'being pain-free'.**

To monitor who was responding, the survey asked respondents to identify themselves as a person with lichen sclerosus, parent/carer/partner, health professional, or 'other'. Some people identified as belonging to more than one category.

Other information collected included age, gender, ethnicity, country of residence and healthcare profession (for health professionals). Interim analysis of results performed whilst the survey was live revealed under-representation of males, urologists and gynaecologists.

To enhance responses from these groups, relevant professional groups and forums were targeted specifically. Respondents were invited to leave their name and email address should they wish to be involved in future surveys.

There were submissions made by 653 respondents from 28 countries (Figure 2 and Appendix 1).

Full report

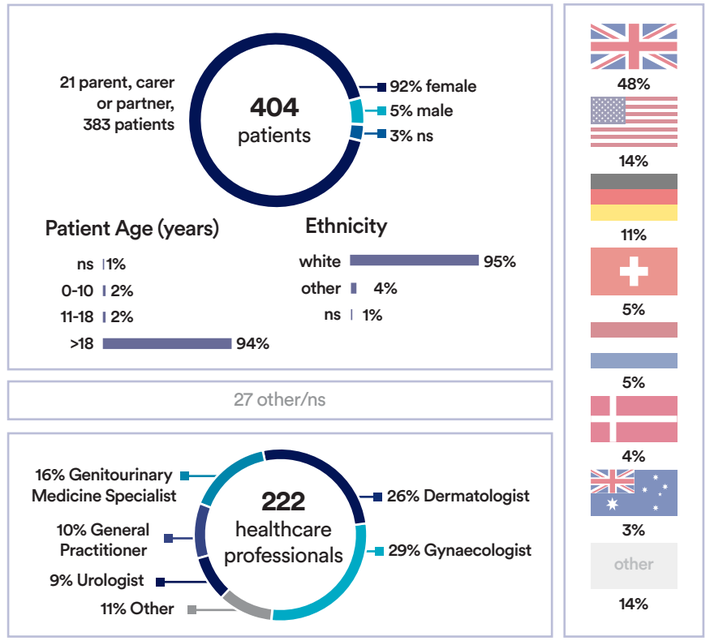

Figure 2: Breakdown of demographic data from 653 Survey 1 participants. ns = not stated.

Stage 2: Data checking and analysis

We reviewed all of the survey submissions, categorised all valid entries and developed 'questions' summarising the submissions in each category. All questions were checked to ensure that they hadn't been answered by previous research. We obtained additional questions by reviewing the scientific literature for 'research recommendations'.

A team at the University of Nottingham led the analysis of the initial survey data, supported by the Steering Group during regular teleconference meetings. Each response was individually reviewed. Some responses contained multiple questions within one submission, these were separated out to form single questions. Out of scope questions, those that were not directly related to lichen sclerosus, or those too broad to be turned into a meaningful research question (e.g. What is the cure?), were removed. These were excluded from further categorisation (Appendix 2).

In scope questions were categorised broadly into four themes: cause, diagnosis, management and prevention. Similar/duplicate questions in each theme were grouped together under a single 'indicative question' i.e. wording that summarises the grouped submissions.

In addition to those identified from the survey, **research recommendations** from key reference documents[3-5] in the scientific literature were also **identified and added to the questions**.

All questions were checked against existing literature to ensure that they were true 'uncertainties' i.e. that they had not already been answered by existing research. Questions that were deemed already answered, were categorised as "certainties" and removed. The key documents used for this checking process were:

1 British Association of Dermatology Guideline on Lichen Sclerosus (2018)[3]
2 Cochrane review on interventions for lichen sclerosus (2012)[4]
3 European Dermatology Forum guideline on Lichen Sclerosus (2015)[5]

After extraction of multiple questions, **2580 questions had been submitted overall (Figure 3)**. Of these, **1921 were valid** and were grouped to form 55 indicative questions. Review of the literature identified 12 research recommendations. The Steering Group reviewed all of these and following further grouping, 40 questions remained. Of these 2 were 'certainties' and had been answered by previous research (Appendix 3). A total of **38 indicative questions** were therefore **submitted for ranking in a second survey** (Appendix 4).

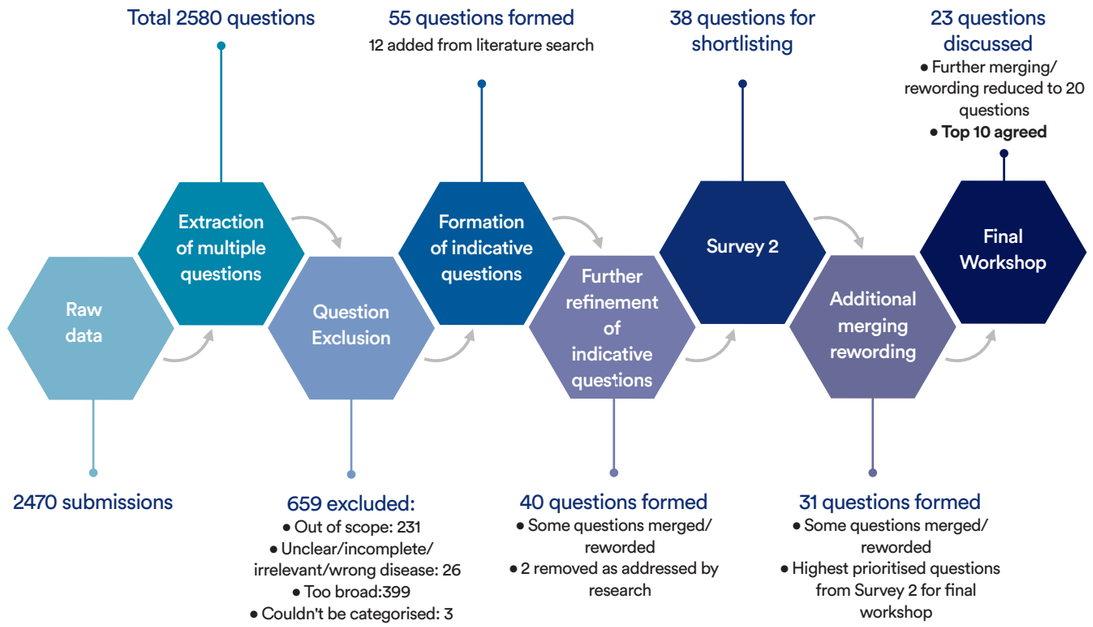

Figure 3: Flow diagram of Lichen Sclerosus Priority Setting Partnership data management

Full report

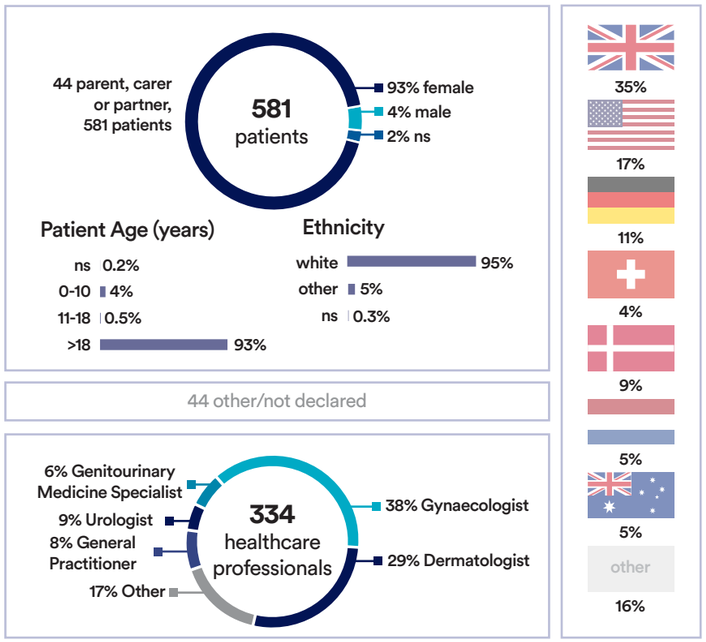

Figure 4: Breakdown of demographic data from 954 Survey 2 participants. ns = not stated.

Stage 3: Interim Prioritisation

A further international survey was performed to shortlist the long list of questions identified during Stage 2. The survey was available between March and April 2018.

A further online survey using Surveymonkey was used to shortlist the **long list of 38 questions** identified during Stage 2. Participants were asked to select their individual 10 most important questions from the long list. Uncertainties were presented to individuals in a random order to minimise selection bias. As in Survey 1, additional demographic information was collected so that we knew the characteristics of people answering the survey. We asked participants to leave their contact details if they were interested in participating in the final workshop, and/or if they wanted to receive the results of the project. **This second survey was completed by 954 participants from 14 countries** (Figure 4). Once the second survey was complete, the Steering Group agreed further merging/re-wording of some uncertainties. **This resulted in a revised list of 31 questions** which was analysed to form a shortlist for final prioritisation. The **top-rated uncertainties overall** (i.e. for all groups), **plus the most important uncertainties from each of the stakeholder groups** (health professionals, females, males and children) (appendix 5)were selected to form a **shortlist of 23** to take forward to Stage 4. This approach ensured that all groups of respondents had their voices heard, even if they were a minority group answering the survey.

Stage 4: Final Workshop

A face-to-face workshop with patients and health professionals was held to agree the 'Top 10' future research priorities for lichen sclerosus

The 23 shortlisted questions were taken to a face-to-face workshop involving **3 independent JLA facilitators, 14 patients and 15 health professionals** (Appendix 1) in London on 7th June 2018. Following the standard JLA priority setting approach, which uses **Nominal Group Technique**, there were multiple sessions during the day in which participants worked in small groups in order to discuss and rank and re-rank the questions. Each group was facilitated by independent JLA advisors. The small group format consisted of mixed gender patients/patient representatives and health professionals. The day finished with the whole group of participants reaching a consensus agreement for the full ranking of the questions, with a primary focus on the Top 10.

During the workshop there was also agreement for further merging and rewording of some of the questions which **reduced the shortlist of questions from 23 to 20.** The final 20 uncertainties agreed at the workshop are available on the JLA website.

Increasing knowledge and awareness of LS was acknowledged to be a key overarching theme for any future research in this field, therefore it was not voted into the Top 10 in its own right.

Final results:
The Top 10 from the final workshop

What is the best way to prevent and manage anatomical changes caused by lichen sclerosus?
- Anatomical changes includes fusion, altered shape of the genitals and scarring.

What is the best way to diagnose lichen sclerosus (diagnostic criteria)?
- Diagnostic criteria may include assessing clinical features (visible signs), taking a biopsy (skin sample) or doing tests (e.g. blood tests). The criteria may also include indicators of disease severity. Necessity of biopsy and adverse effects from biopsy may also be investigated.

What surgical treatments should be offered for lichen sclerosus?
- Surgical treatments include (but are not limited to) laser, platelet-rich plasma or lipofilling (fat transfer)
- These treatments can be used in the management of scarring, anatomical changes or symptoms associated with lichen sclerosus.
- When should surgical treatments be offered and what are the long-term outcomes?

Are there effective topical treatments other than topical steroids in the treatment of lichen sclerosus?
- This includes what should be done when topical steroids fail.
- 'Other topical treatments' may include (but are not limited to) topical calcineurin inhibitors such as tacrolimus and pimecrolimus.

What is the risk of developing cancer in patients with lichen sclerosus?
- This includes being able to identify those at greatest risk and whether certain treatments increase or lower/reduce the risk of cancer

Which aspects of lichen sclerosus should be measured to assess response to treatment?

Can lichen sclerosus be prevented from occurring and what are the trigger factors?
- Trigger factors include both factors responsible for development of lichen sclerosus and for its flare ups. These may include (but are not limited to) irritation from clothing/chemicals/urine, trauma, environmental factors, drugs and medications

Is it necessary to continue treatment for patients with lichen sclerosus who do not have any symptoms and/or signs of disease activity?
- Patients without symptoms includes those who are in remission after treatment, as well as those who have asymptomatic disease.
- This includes follow-up arrangements such as includes frequency (how often), duration (how long) and by whom (which health professionals)?

What is the impact on quality of life?
- Quality of life includes effect on day to day living, psychological health and sexual relationships
- This includes how can psychological or social support be best used to help people with lichen sclerosus?

Does the disease course of lichen sclerosus differ in boys and girls, adult males and females?
- This includes whether lichen sclerosus can remit completely

Participants at the final workshop on 7th June 2018 ranked and re-ranked the 23 questions before agreeing the 'Top 10'.

Listed here are the remaining shortlisted questions. Note that while 23 questions went to the workshop, there are only 20 in the results. This is because the participants felt strongly that some questions should be combined. The resulting questions are relatively broad in scope and as a result they have been split into a main heading with additional wording/inclusions underneath.

Are tablets or injection medications that dampen the immune system effective in treating lichen sclerosus?
- This may include (but not limited to) medications such as methotrexate, biologic treatments, low dose naltrexone

What is the best topical steroid regimen for treating a flare and maintaining remission in lichen sclerosus?
- This includes steroid strength, site of application, duration and frequency
- What is the long-term safety of applying steroids to the skin in lichen sclerosus?

Is there a role for complementary therapies in the management of lichen sclerosus?
- Complementary therapies may include (but are not limited to) homeopathic remedies, acupuncture, vitamin supplements or natural products
- Which are the best to use in addition to standard topical treatment?

How best can knowledge and awareness of lichen sclerosus be increased?
- This includes healthcare professionals, patients, public and professional bodies

What role do hormones have in causing or influencing the severity of lichen sclerosus?
- 'Hormones' can be during menopause, throughout the menstrual cycle, during pregnancy
- This includes whether hormone treatments have a role in the management of lichen sclerosus

Are there any lifestyle changes that can help in the management of lichen sclerosus?
- This includes genital hygiene, sex life and day to day activities

Is lichen sclerosus in women and children an autoimmune condition?
- Should patients be screened for other autoimmune conditions?

Is lichen sclerosus in women and children caused or linked to medical conditions other than autoimmune conditions?

What is the genetic link for the development of lichen sclerosus?

What role does diet have in causing or influencing the severity of lichen sclerosus?
- This includes whether there is a role for dietary changes in the management of the condition
- 'Diet' may include (but not limited to) eating sugar, being deficient or intolerant of certain nutrients

Full report

Strengths and Limitations

The main strengths of this project are the global reach, large number of respondents, and robust methodology. The scope was intentionally kept broad as this is a one off opportunity to raise awareness and generate interest in future research for lichen sclerosus affecting men, women and children.

The main challenge was in ensuring adequate representation of men with lichen sclerosus and healthcare professionals who treat them. The reasons for this were thought to be twofold. First, it has been demonstrated that males are often less willing than women to engage with health-related information and surveys.[6] Second, the treatment of LS in males differs to women as circumcision potentially offers a cure. The proportion of males with ongoing 'unanswered questions' about lichen sclerosus may therefore be far fewer than women. Similarly, representatives of children with lichen sclerosus were a minority within the surveys and prioritisation workshop, probably because the condition is less common in children. As a result, the Steering Group took care to ensure that the uncertainties were carefully worded to be applicable to all patient groups (where possible), and workshop participants representing men and children were specifically asked to confirm that the final Top 10 reflected priorities relevant to them.

Next steps and recommendations

The Top 10 list covers a wide range of topics and therefore offers a wide range of potential future activities. The partnership undertook the project with the main objective of the results used to inform research projects. We will widely publicise the 'Top 10' and encourage all people with an interest in lichen sclerosus to do the same. This project has already been published as a research paper in the BJD. [7]

In general, individual studies to date have only focussed on men, women **or** children. We do not know if their results are transferrable **between** the different groups. Therefore 'knowns' in one subgroup, e.g. men, are still 'unknowns' in women and children, and vice versa. This should be borne in mind when designing future studies; researchers should consider how existing knowledge in one group might be extrapolated to, or tested in, the other groups of people affected by lichen sclerosus.

In addition to the 'Top 10', a general lack of knowledge and awareness of lichen sclerosus amongst health professionals and the wider public has been highlighted. **It is important that existing knowledge is disseminated effectively,** as well as new knowledge that comes from research generated by this PSP.

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Appendices

Appendix 1 - Characteristics of participants in the Lichen Sclerosus PSP

	1st survey n (%)	2nd survey n (%)	Final workshop n (%)
Patients total	**404 (64)**	**625 (66)**	**14**
Female	370 (92)	584 (93)	10 (71)
Male	19 (5)	28 (4)	2(14)
Gender missing	15 (4)	13 (2)	0
Parent, carer or partner	21 (5)	44 (5)	2 (14)
Age 0-10	9 (2)	26 (4)	0
Age 11-18	10 (2)	3 (0.5)	0
Age >18	381 (94)	584 (93)	0
Age missing	4 (1)	1 (0.2)	0
Ethnicity white	384(95)	591 (95)	13 (93)
Ethnicity other	16 (4)	32(5)	1 (7)
Ethnicity missing	4 (1)	2(0.3)	0
Health Professional total	**222 (35)**	**334 (35)****	**15**
Gynaecologist	64 (29)	128 (38)	4 (27)
Dermatologist	58 (26)	93 (28)	7 (47)
Genitourinary Medicine Specialist	35 (16)	21 (6)	1 (7)
General Practitioner/ Family doctor	23 (10)	26 (8)	0
Urologist	19 (9)	17 (5)	0
Physiotherapist	7 (3)	3 (1)	0
Pathologist	0	3 (1)	0
Plastic surgeon	1()	3 (1)	0
Nurse	5 (3)	10 (3)	2 (13)
Other health professional	6 (3)	5 (1)	0
Health professional category missing	4 (2)	30 (10)	0
Respondent other	**10 (2)**	**14 (1)**	**0**
Respondent skipped category	**17 (3)**	**30 (3)**	**0**
Total participants	**653 (100)**	**954 (100) ***	**29 (100)**
Country of origin			
United Kingdom	303 (48)	326 (35)	26 (90)
United States	89 (14)	161 (17)	0
Germany	72 (11)	104 (11)	1 (3)
Denmark	24 (4)	79 (9)	1 (3)
Australia	17 (3)	45 (5)	0
Netherlands	29 (5)	42 (5)	0
Switzerland	30 (5)	40 (4)	0
Other	89(14)	157(16)	1 (3)

N.B Survey 2: *49 people answered more than one category; **5 health professionals answered more than one category for speciality

Appendix 2 - Excluded Questions

Exclusion reason		**Number of questions excluded**
Incomplete question		7
Unclear question		16
Wrong disease		3
Out-of-scope questions	Relating to healthcare provision/ service delivery	48
	Relating to research methodology/ prioritisation	17
	Relating to Epidemiology	140
	Questions about local support groups	11
	Irrelevant question	9
	Question about consensus on national guidelines	6
Too broad/ too vague to be meaningful:		
What is the best treatment for LS?		138
Is there a cure for LS?		73
What is the cause?		188
Single questions can't be categorised		3
TOTAL		**659**

Appendix 3 - Questions that were considered 'Certainties' and therefore removed

1. Does circumcision cure lichen sclerosus in males and what are the long-term outcomes compared to treatment for remission and maintenance of disease with topical steroids?

2. Does Lichen Sclerosus affect extra-genital body areas?

Appendices

Appendix 4: full list of 'uncertainties' harvested from survey that were voted on in the second survey

The table summarises the 'indicative questions' (uncertainties) that were formed from submissions to the PSP first survey. The columns represent which stakeholders have contributed to the formation of the question (Healthcare professionals (HCP), male patients, female patients and children). If the question had also been asked as a recommended for future research by guidelines, this is reflected in the 'research' column.

Question number	Uncertainty	HCP	Male patients	Female patients	Children	Research
1	Is lichen sclerosus in women and children an autoimmune condition and should doctors screen patients for other autoimmune conditions?	✓	×	✓	✓	
2	Is lichen sclerosus in women and children caused or linked to medical conditions other than autoimmune conditions?	✓	×	✓	✓	
3	What is the genetic link for the development of lichen sclerosus?	✓	✓	✓	×	
4	What role do hormones have in causing or influencing the severity of lichen sclerosus e.g. during menopause, menstrual cycle or pregnancy?	✓	×	✓	×	
5	What is the role of drugs and medications for the development of lichen sclerosus in women	✓	✓	✓	×	
6	Do external factors trigger the development of lichen sclerosus, e.g. irritation from clothing/chemicals/urine, trauma, and environmental factors?	✓	✓	✓	×	
7	How can we transfer knowledge from what is already known about male lichen sclerosus to the benefit of women and children with the disease?	✓				✓
8	What is the best way to diagnose lichen sclerosus (diagnostic criteria)? For example by assessing clinical features (visible signs), taking a biopsy (skin sample), or doing tests (e.g blood tests), and what indicators are there of disease severity?	✓	× (but 1 urologist)	✓	✓	
9	Is a biopsy necessary for the diagnosis of lichen sclerosus, how reliable is it, and are there associated adverse effects?	✓	×	✓	×	
10	How can knowledge and awareness of lichen sclerosus be increased amongst healthcare professionals, patients, public and professional bodies?	✓	✓	✓	×	
11	Are there effective treatments other than topical steroids in the treatment of lichen sclerosus and what should be done when topical steroids fail?	✓	✓	✓	✓	✓
12	What is the best topical steroid regime for treating a flare of lichen sclerosus, including steroid strength, site of application, duration and frequency?	✓	✓	✓	✓	✓
13	What is the best maintenance regime to prevent flares of Lichen Sclerosus, including strength, frequency and duration of treatment?	✓	✓	✓	×	✓
14	What are the risks, side effects and long-term effects of using topical steroids in lichen sclerosus?	✓	✓	✓	✓	
15	Are topical calcineurin inhibitors (e.g tacrolimus, pimecrolimus) effective in the treatment of lichen sclerosus	✓	×	✓	×	✓
16	Do hormone treatments play a role in causing lichen sclerosus, or do they have a role in the management of lichen sclerosus in women?	✓	×	✓	×	✓
17	Which moisturisers are most effective in the management of lichen sclerosus	✓	✓	✓	×	
18	Are tablets or injection medications that dampen the immune system (e.g. methotrexate, biologic treatments, low dose naltrexone) effective in treating lichen sclerosus?	✓	×	✓	×	✓
19	Is there a role for HPV vaccination in the management of lichen sclerosus?	✓	×	✓	×	
20	Is there a role for platelet-rich plasma (stem-cell therapy), lipofilling (fat transfer) in the management of lichen sclerosus?	✓	×	✓	×	✓
21	When and what type of surgery should be offered for the management of scarring and anatomical changes associated with lichen sclerosus and what are the long-term outcomes of surgery?	✓	×	✓	×	✓
22	Is there a role for laser therapy in the management of lichen sclerosus?	✓	×	✓	×	
23	Is there a role for phototherapy (light therapy) in the management of lichen sclerosus?	✓	×	✓	×	
24	Is there a role for physiotherapy in the management of lichen sclerosus?	✓	×	✓	×	
25	How can psychological or social support be best used to help people with lichen sclerosus, and how should this be delivered to account for individual needs?	✓	×	✓	✓	
26	How effective are self-care interventions e.g providing education/support in managing symptoms of lichen sclerosus such as itch, pain, pain during sex?	✓	×	✓	✓	
27	What role does diet have in causing or influencing the severity of lichen sclerosus, and is there a role for dietary changes in the management of the condition? e.g. eating sugar, being deficient or intolerant of certain nutrients?	✓	✓	✓	×	
28	Is there any lifestyle advice that can help in the management of lichen sclerosus, including genital hygiene, sex life, day to day activities	✓	×	✓	✓	
29	Is there a role for complementary therapies in the management of lichen sclerosus? (e.g homeopathic, acupuncture, vitamin supplements or natural products) and which are the best to use in addition to topical steroid treatment?	✓	×	✓	✓	

Appendices

Question number	Uncertainty	HCP	Male patients	Female patients	Children	Research
30	Are there any specific materials (e.g. cotton, silk) which are helpful for people with lichen sclerosus to wear?	×	×	✓	×	
31	What is the best way to prevent and manage changes to anatomy/ appearances caused by lichen sclerosus e.g. fusion, altered shape of the genitals, scarring.	✓	✓	✓	✓	
32	Is it necessary to continue treatment for patients with lichen sclerosus who do not have any symptoms, or those who are in remission after treatment? How often, for how long and by whom should people should they be followed up?	✓	×	✓	×	
33	Is lichen sclerosus a lifelong condition or can it remit completely? Does the disease course differ in children, males and females?	✓	✓	✓	✓	✓
34	What is the impact of lichen sclerosus on quality of life, e.g. how does it affect day to day living, psychological health and sexual relationships?	✓	×	✓	×	
35	What is the impact of lichen sclerosus on pregnancy and childbirth?	✓	×	✓	×	
36	What is the risk of developing cancer, can those at greatest risk be identified, do certain treatments increase the risk and how can the risk of cancer be reduced in patients with lichen sclerosus?	✓	✓	✓	✓	✓
37	Which aspects of the disease (outcomes) should be measured to measure response to treatment?	✓	×	✓	×	✓
38	Can lichen sclerosus be prevented from occurring and if so how?	✓	× (but 1 urologist)	✓	✓	

Appendix 5: Most important uncertainties from each of the stakeholder groups as voted in the second survey.

The stakeholder groups (Healthcare professionals (HCP), male patients, female patients and children) have been reported separately in this table and it is indicated with a '•' if the uncertainty was voted in the 'top 10' for each of the individual groups.

Uncertainty	HCP	Male patients	Female patients	Children
Is lichen sclerosus in women and children an autoimmune condition and should doctors screen patients for other autoimmune conditions?			•	•
Is lichen sclerosus in women and children caused or linked to medical conditions other than autoimmune conditions?				•
What is the genetic link for the development of lichen sclerosus?				
What role do hormones have in causing or influencing the severity of lichen sclerosus e.g. during menopause, menstrual cycle or pregnancy?			•	
What is the role of drugs and medications for the development of lichen sclerosus in women				
Do external factors trigger the development of lichen sclerosus, e.g. irritation from clothing/ chemicals/urine, trauma, and environmental factors?		•		
How can we transfer knowledge from what is already known about male lichen sclerosus to the benefit of women and children with the disease?		•	•	
What is the best way to diagnose lichen sclerosus (diagnostic criteria)? For example by assessing clinical features (visible signs), taking a biopsy (skin sample), or doing tests (e.g blood tests), and what indicators are there of disease severity?	•			
Is a biopsy necessary for the diagnosis of lichen sclerosus, how reliable is it, and are there associated adverse effects?				
How can knowledge and awareness of lichen sclerosus be increased amongst healthcare professionals, patients, public and professional bodies?				
Are there effective treatments other than topical steroids in the treatment of lichen sclerosus and what should be done when topical steroids fail?	•	•		
What is the best topical steroid regime for treating a flare of lichen sclerosus, including steroid strength, site of application, duration and frequency?	•			
What is the best maintenance regime to prevent flares of Lichen Sclerosus, including strength, frequency and duration of treatment?	•		•	•
What are the risks, side effects and long-term effects of using topical steroids in lichen sclerosus?	•	•	•	•
Are topical calcineurin inhibitors (e.g tacrolimus, pimecrolimus) effective in the treatment of lichen sclerosus				
Do hormone treatments play a role in causing lichen sclerosus, or do they have a role in the management of lichen sclerosus in women?				
Which moisturisers are most effective in the management of lichen sclerosus				
Are tablets or injection medications that dampen the immune system (e.g. methotrexate, biologic treatments, low dose naltrexone) effective in treating lichen sclerosus?				
Is there a role for HPV vaccination in the management of lichen sclerosus?				

Is there a role for platelet-rich plasma (stem-cell therapy), lipofilling (fat transfer) in the management of lichen sclerosus?				
When and what type of surgery should be offered for the management of scarring and anatomical changes associated with lichen sclerosus and what are the long-term outcomes of surgery?	•			
Is there a role for laser therapy in the management of lichen sclerosus?				
Is there a role for phototherapy (light therapy) in the management of lichen sclerosus?				
Is there a role for physiotherapy in the management of lichen sclerosus?				
How can psychological or social support be best used to help people with lichen sclerosus, and how should this be delivered to account for individual needs?				
How effective are self-care interventions e.g providing education/support in managing symptoms of lichen sclerosus such as itch, pain, pain during sex?				
What role does diet have in causing or influencing the severity of lichen sclerosus, and is there a role for dietary changes in the management of the condition? e.g. eating sugar, being deficient or intolerant of certain nutrients?		•	•	•
Is there any lifestyle advice that can help in the management of lichen sclerosus, including genital hygiene, sex life, day to day activities		•		
Is there a role for complementary therapies in the management of lichen sclerosus? (e.g homeopathic, acupuncture, vitamin supplements or natural products) and which are the best to use in addition to topical steroid treatment?			•	•
Are there any specific materials (e.g. cotton, silk) which are helpful for people with lichen sclerosus to wear?				
What is the best way to prevent and manage changes to anatomy/ appearances caused by lichen sclerosus e.g. fusion, altered shape of the genitals, scarring.	•		•	•
Is it necessary to continue treatment for patients with lichen sclerosus who do not have any symptoms, or those who are in remission after treatment? How often, for how long and by whom should people should they be followed up?	•	•		•
Is lichen sclerosus a lifelong condition or can it remit completely? Does the disease course differ in children, males and females?	•	•		•
What is the impact of lichen sclerosus on quality of life, e.g. how does it affect day to day living, psychological health and sexual relationships?				
What is the impact of lichen sclerosus on pregnancy and childbirth?				
What is the risk of developing cancer, can those at greatest risk be identified, do certain treatments increase the risk and how can the risk of cancer be reduced in patients with lichen sclerosus?	•	•	•	
Which aspects of the disease (outcomes) should be measured to measure response to treatment?				
Can lichen sclerosus be prevented from occurring and if so how?		•	•	•