

“Slippery sheets and dressings that glow in the dark”

Dr Amber Young and the Clinical Burn Research Team

**Children's Burns Centre, UHBristol, Clinical Lead, Scar Free
Foundation Centre for Children's Burns Research
Senior Research Fellow, University of Bristol**



**Children's Burns
Research Centre**

UHBristol Research and Innovation Day, 2016

Research themes

Education and training

People

Partners

Information for participants
and public

Publications

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About

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Our mission is to develop a UK research centre of world-leading excellence crossing clinical and academic boundaries for real patient benefit, to prevent burns and improve the outlook of children with burn injuries.

Research themes

Clinical management

Psychosocial adjustment and
rehabilitation

Prevention

News

[Alan Emond's paper on children's burns
and scalds published this week](#)

16 November 2016

[Cardiff Prevention team nominated for
Staff Recognition Awards!](#)

16 November 2016

“Our mission is to develop a UK research centre of world-leading excellence crossing clinical and academic boundaries for real patient benefit, to prevent burns and improve the outlook of children with burn injuries.”

Clinical Burn Research Theme

To lead networks for pragmatic clinical research into burn care co-developed with patients to improve clinical decision-making and healthcare outcomes.



Children's Burns Research Centre



“There has never been a better time to embark on the pursuit of scar free healing. With the right leadership, collaboration and support new therapies are within reach.

The UK is well placed to lead and The Scar Free Foundation is the right organisation to make this happen.

Scar Free healing in a generation is a challenge but I believe we can get there”.

Professor Sir John Gurdon

Joint Winner of the Nobel Prize for Medicine 2012

VICKY HORSHAN

I still see the scars when I look in the mirror but I also see myself as a stronger person. I've changed my outlook on life. I don't take anything for granted anymore. It isn't like before I am now without the work of doctors and engineers. It's amazing what they can do. Having the right support from people around you really does make a massive difference. To improve going through it and the experience to come, I'd say never give up. Look forward and just what's happened in the past helped you. You can definitely still get everything you want out of life.

SECTION 1: CLINICAL RESEARCH STRATEGY

Background

The Scar Free Foundation has the experience of and an established reputation for creating successful partnerships between academic and clinical colleagues, as well as with pharmaceutical and medical appliance companies. The model of working will provide a strong basis for the successful delivery of the scar free strategy. The SFC, as the national provider of healthcare, has the potential to provide a unique platform for the sponsored and co-ordinated programme of research, enabling the creation of the resources and large patient cohorts for both clinical and drug development in the journey towards scar free healing.

To engage fully with the clinical community, the Scar Free Advisory Group used consensus agreements from each of The Scar Free Foundation Principal Member organisations as the basis for future collaboration with leading clinicians and researchers. In the period May - November 2015, twenty seven clinical academics from twelve different research centres were interviewed. Where possible, these senior researchers and research nurses provided insight into day-to-day challenges. Questions were structured along The Scar Free Foundation's priority areas, with the aim of identifying current gaps, immediate priority and information about the best ways in which The Scar Free Foundation could facilitate research in practice.

Summary of Findings

There is a general agreement that:

- It is essential to place the patient at the centre of the scar free strategy by continuously asking the questions: What will be the impact for patients and by involving patient representatives throughout the process of shaping and evaluating funding. Clinicians' practice priorities leading to measurable change in the clinical setting, with a demonstrable impact on routine practice.
- It is vital to establish clear, the origins from need to agreement about diagnosis, definition and measurement, to prevent the development of can pathways including psychological input and rehabilitation, and the development and routine use of non-invasive clinical and patient reported outcomes.
- The repeated nature of reconstructive plastic surgery and associated specialist often resulting associated costs for patients, to small numbers of patients who receive high cost care provided at a small number of centres. This means that patients are relatively small compared with large surgical specialties.
- Therefore, a collective approach to research involving research that networks and close collaboration and coordination between centres is likely to produce better quality outcomes.

There is a very strong consensus that an emphasis on basic sciences should not be at the expense of the clinical agenda, and especially the needs of those who already live with scarring.

Realising, earlier than thought the scar free strategy into research both systems and clinical strategies with different healing streams, a single research strategy has been identified to incorporate both and maintain the guiding principle that the patient sits at the heart of the research agenda.

Implications & Priorities of the Conditions and Long Term Sequelae

The Scar Free Foundation has focused its earlier understanding of the SFC gene bank at Bristol University. The research has made possible the investigation of both genetic and environmental factors that cause SFC and lead to the development of the condition on both the short and long term. This is a key resource for scar free healing research, as it is a key resource for our understanding the biology of the numerous and complex variables that affect the clinical course and management of pathologic, and it should continue to be funded in the long term. This also provides the model for development of other resources across the different specialties, and the possibility of research to enable further conditions to be addressed under Treatment 1 and should be considered during the delivery phase.

11

Diagnosis and investigations

“Early diagnosis and investigation remains a challenge. For example, early diagnosis of ‘clinically relevant’ infection in burns is necessary for targeted management and to promote wound healing. Similarly, the differentiation of infection (colonisation and true wound infection) and sepsis is extremely difficult.”

Diagnosis of wound infection?

Isambard: 32% scald from hot tea

Amy: 22% scald from hot tea

Both treated with adherent dressings.

Both had signs of infection day 2-3.



Isambard was lucky – no permanent scarring.



Amy was not so lucky – lifelong scarring, increased hospital stay, increased NHS costs.



Neither child had infection.....

Clinically-Relevant Burn Wound Infection

Difficult to diagnose / differentiate from inflammation

Delays healing, increases scarring, prolongs hospital stay, increases personal and NHS costs

Signs of infection common, true infection rare (~10%).

We cannot diagnose wound infection at point of care.

Over-use of unnecessary antibiotics increasing bacterial resistance.



Variations in guideline use and practice relating to diagnosis and management of infection in paediatric burns services in England and Wales: A national survey

[Anna Davies](#) , [Francesca Spickett-Jones](#) , [Paula Brock](#) , [Karen Coy](#) , [Amber Young](#)  

DOI: <http://dx.doi.org/10.1016/j.burns.2016.07.032>



⊕ Article Info

Abstract

Full Text

Images

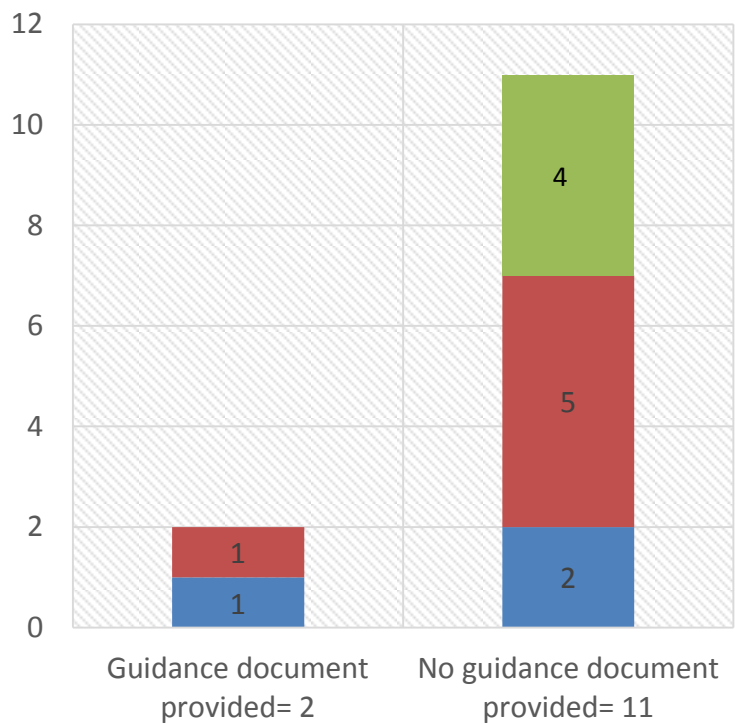
References

Highlights

- Antibiotic prophylaxis is
- Most services have guid
- Fewer than half of serv
- Staff awareness of guid
- Staff are inconsistent in swabbing practices.

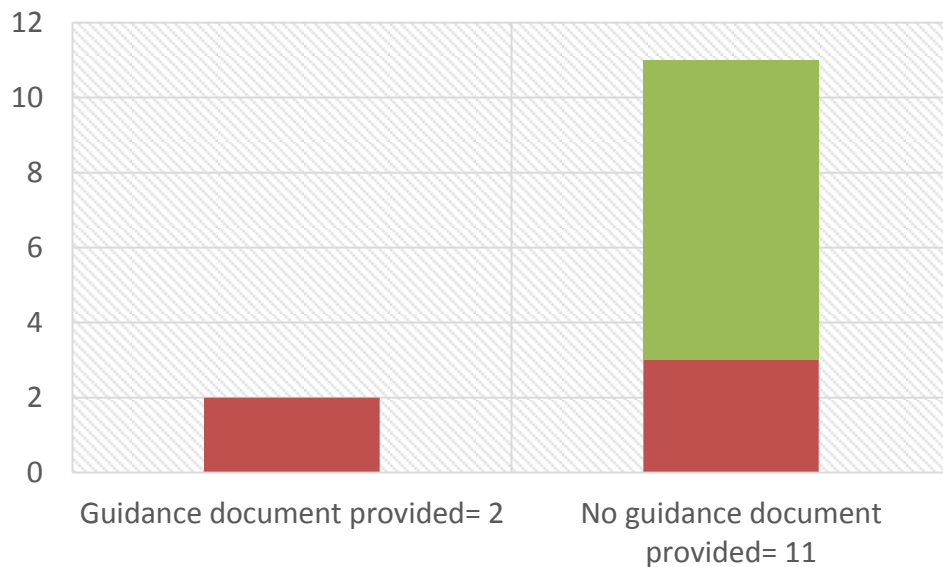
“Fewer than half of burn services have guidance for diagnosing and managing wound infection.”

Antibiotic use



■ All service staff report guidance is available
 ■ >1 service staff report available
 ■ No staff report guidance is available

Diagnosing infection



Clinical Dilemma

- Treat sepsis early: *Surviving Sepsis*
- Antibiotic stewardship

Clinical signs of infection identical to systemic inflammatory response

Only difference is presence of bacteria at *critical* level.



Nottingham University Hospitals NHS Trust

The Doctor's Guide to identifying Severe Sepsis & applying the Sepsis Six

Does your patient have an EWS-3 or do they meet any two of the following SIRS criteria?

- Temperature <36.0°C Or > 38.3°C
- Heart rate >90bpm
- Respiratory rate >20 bpm
- White cells <4 Or >12 x10⁹/L

Could an infection be the cause? **IF YES** → Do they have evidence of organ dysfunction (e.g. Acute Kidney injury, coagulopathy) or poor perfusion (e.g. Systolic BP <90mmHg, or Lactate >2.0)? **IF YES** → Your patient may have severe sepsis, which is a medical emergency. Seek senior medical support and commence the Sepsis Six bundle of care.

The Sepsis Six resuscitation bundle

- 1. Blood Cultures**
 - Take 2 pairs from different sites
 - Cultures should also be taken from all invasive lines.
 - Preferably should be taken before, but should not delay, antibiotic administration.
 - All potential sources (e.g. urine/ sputum) should also be cultured
- 2. Intravenous Antibiotics**

Within 1 hour

In Severe Sepsis, every hour delay in antibiotics increases mortality by 4%

 - Ensure good communication with nursing staff.
 - Write up first dose antibiotics on the 'Once Only' drug chart and ask for them to be given immediately.
 - Subsequent doses should be prescribed on the antibiotic chart with indication and review dates. Refer to the Severe Sepsis guide on the antibiotic review for more details.
- 3. Fluid resuscitation**

If SBF <30mmHg OR Lactate >2mmol/L GIVE:

 - 1 litre crystalloid (e.g. Hartmann's solution) over 15 mins.
 - AND review within 30 mins.
 - BP remaining low?
 - Repeat fluid challenge, as above, and inform senior colleagues.
 - If repeat fluid challenge fails to improve SBF to >30mmHg, seek urgent senior clinical review.
- 4. Serum lactate**
 - Can be taken as venous or arterial blood gas sample
 - High lactate identifies patients at risk who may not be hypotensive
 - If >2 then inform senior colleagues
 - If >4 then seek urgent senior clinical review
- 5. Oxygen**
 - Hypoxia kills.
 - Give oxygen via a non-rebreather mask at 15l/min
 - For guidance on oxygen use, refer to the NUH Oxygen Policy
- 6. Catheter**
 - BP remaining low?
 - Evidence of acute kidney injury?
 - Consider catheterising early.
 - Ensure input/output fluid balance charts are commenced
 - Aim Urine Output >30ml/hr
 - Acute Kidney injury is a FREQUENT complication of Severe Sepsis.

No improvement? Blood pressure failing to improve despite fluid resuscitation? Clinical concern?
Ensure you seek senior help & critical care review immediately

You will find more information in your Sepsis Toolbox and on the intranet. Please ensure a sepsis checklist sticker is added to the medical notes.
 Produced by the Sepsis Action Group, 2013. Review date: March 2014.

THINKTREATSTOP!sepsis

NICE National Institute for Health and Care Excellence

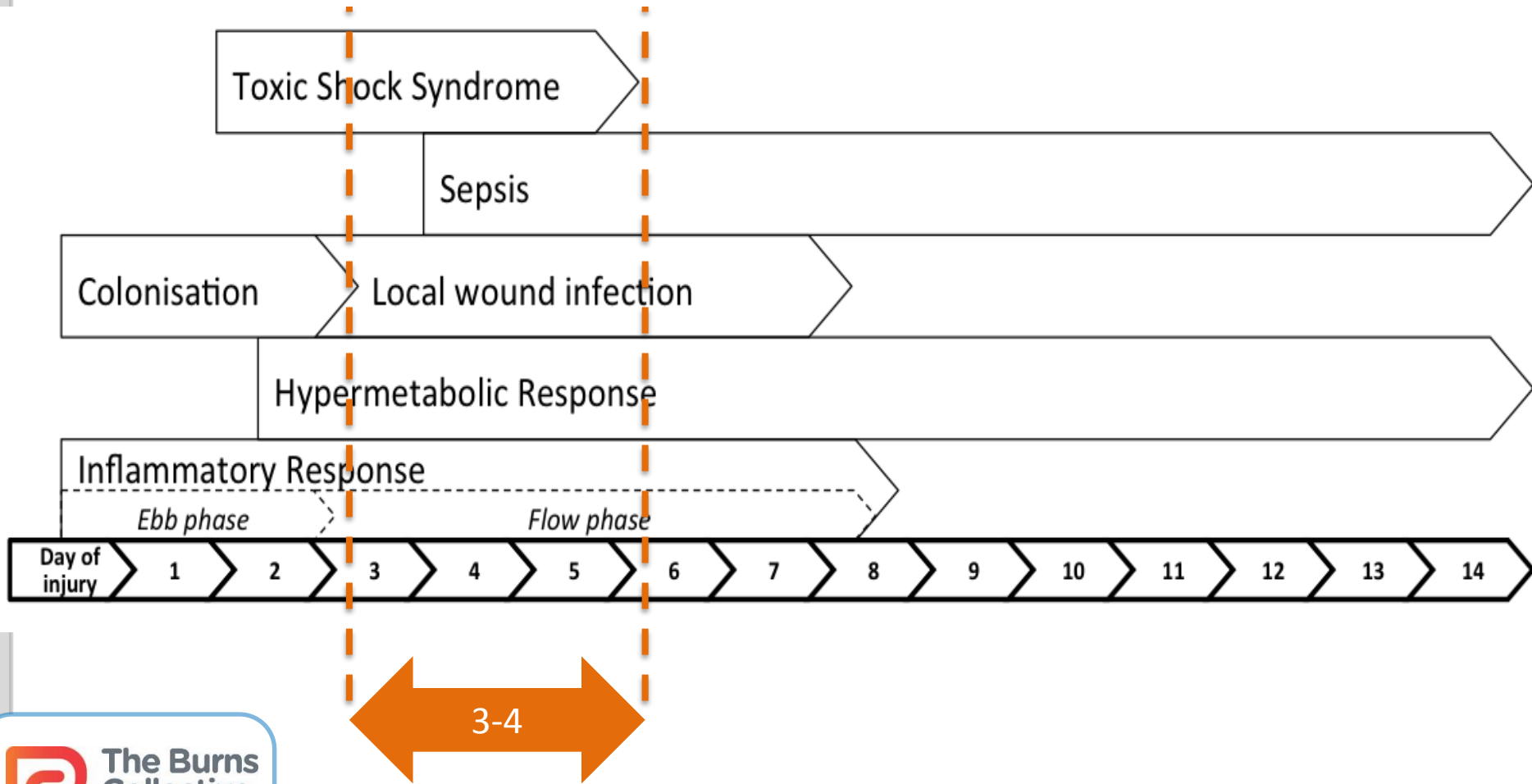


Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use

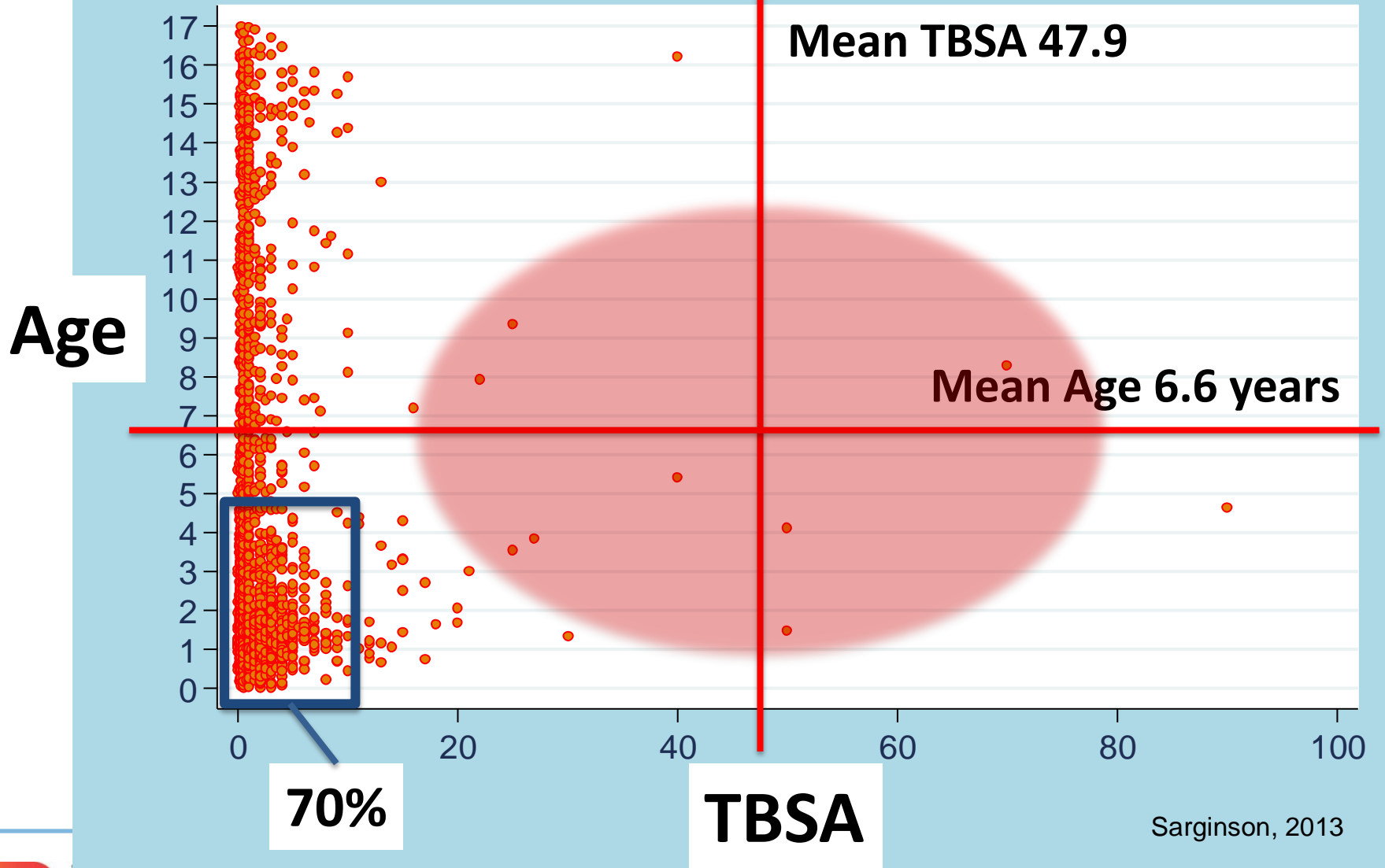
NICE guideline
 Published: 18 August 2015
nice.org.uk/guidance/ng15

The Burns Collective
 The Burns Collective
 Leading Children's Burns Research
 A Healing Foundation Initiative
 Research Centre

Post-burn illness



All children seen at the South West UK Children's Burns Centre 2010 to 2012



Sarginson, 2013

The **MISTIC** Study

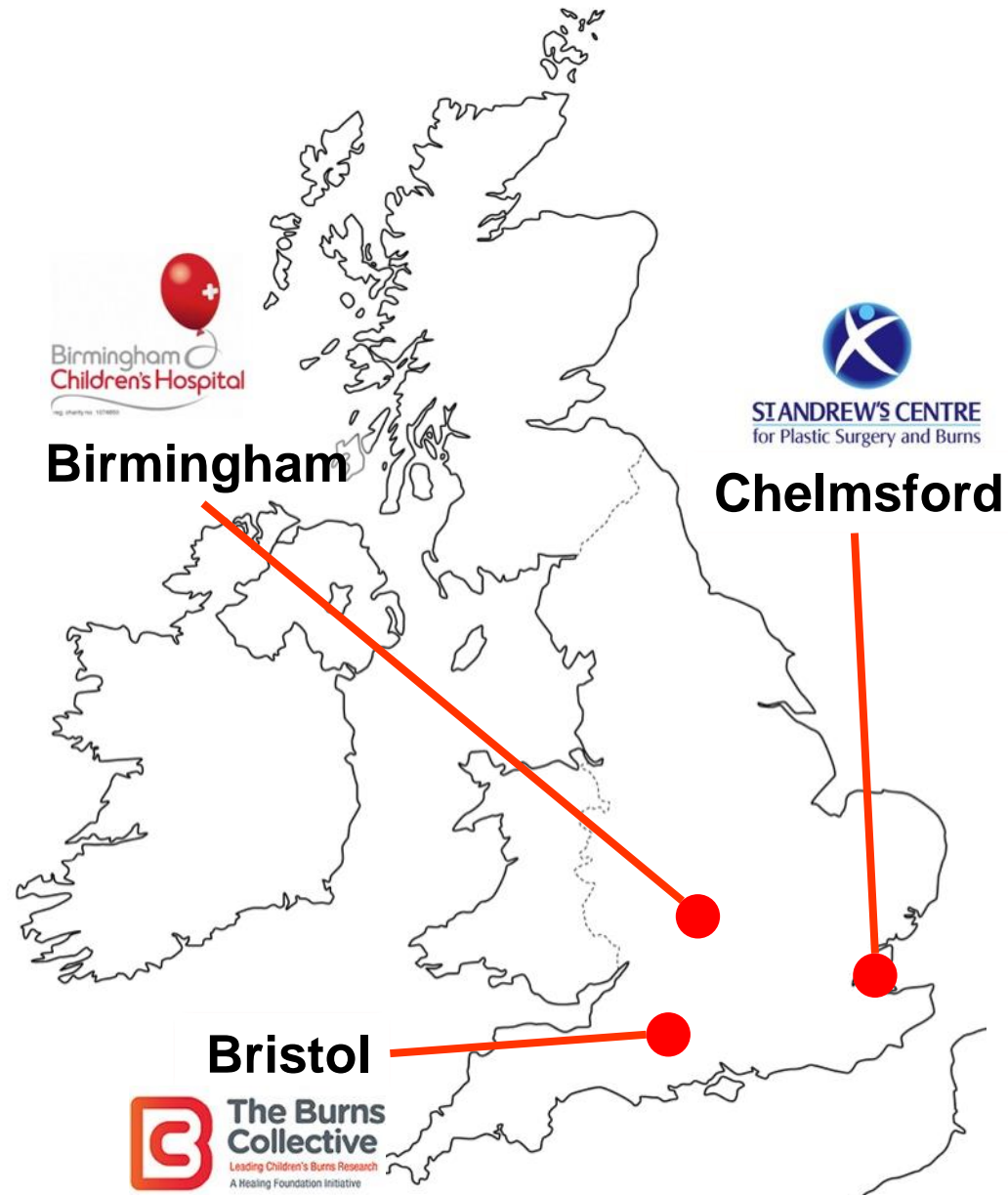


Morbidity In Small Thermal Injury in Children: A prospective multicentre observational cohort study

Aim: To describe the typical physiological response to small burn injury in pre-school children

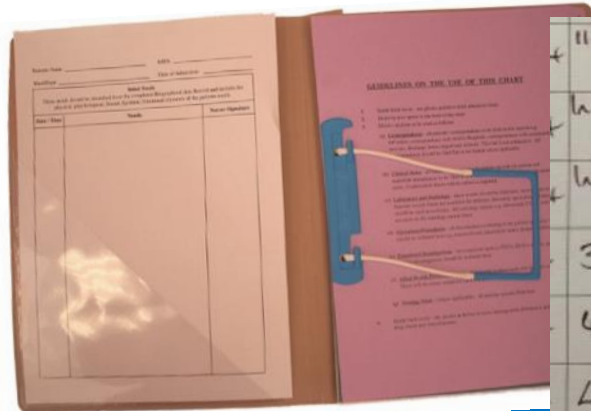
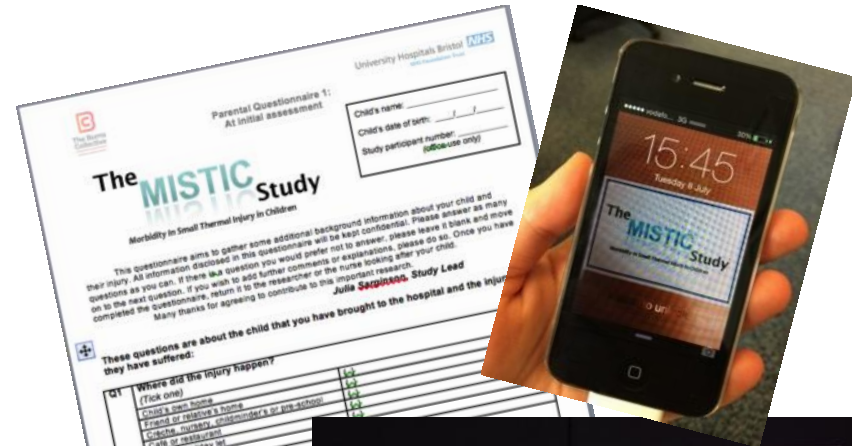
Recruitment: Jan 2014 to July 2015

- 625 children
- < 5 years of age
- within 48 hours of injury
- Burn < 10% TBSA



Data Collection

- Clinical details
- All physical observations & blood tests
- Parental questionnaires
- Home temperature diaries



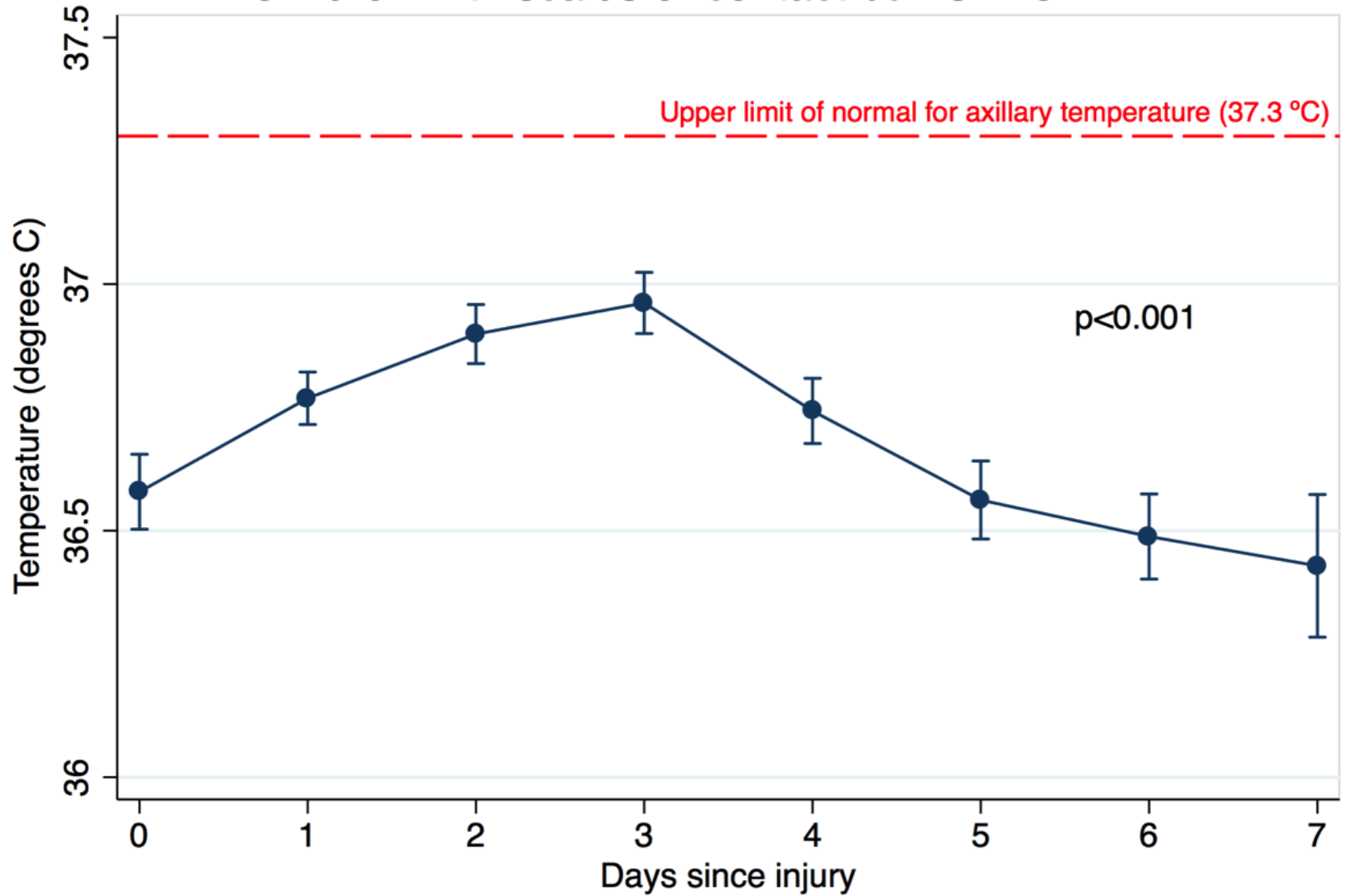
11am	35.5°	Immediately prior to his... he did not appear warm... went down limp + lethargic before wounding. Dries irritable + off food/drink. Otherwise much improved.
In hospital		
In hospital		Returned home p.m. Bathed + dressing changed in the morning. Happy/smiley
3.30pm	36.3°	Fit + well. Did a long nap (4-5 h) but awoken after poor sleep in hospital
4.15pm	36.2°	Temp taken after nap. Has been full smile + playfulness. Scald healing well (dressing)
4.00pm	36.5°	Temp taken shortly after nap. Dressings... Seems very well indeed!



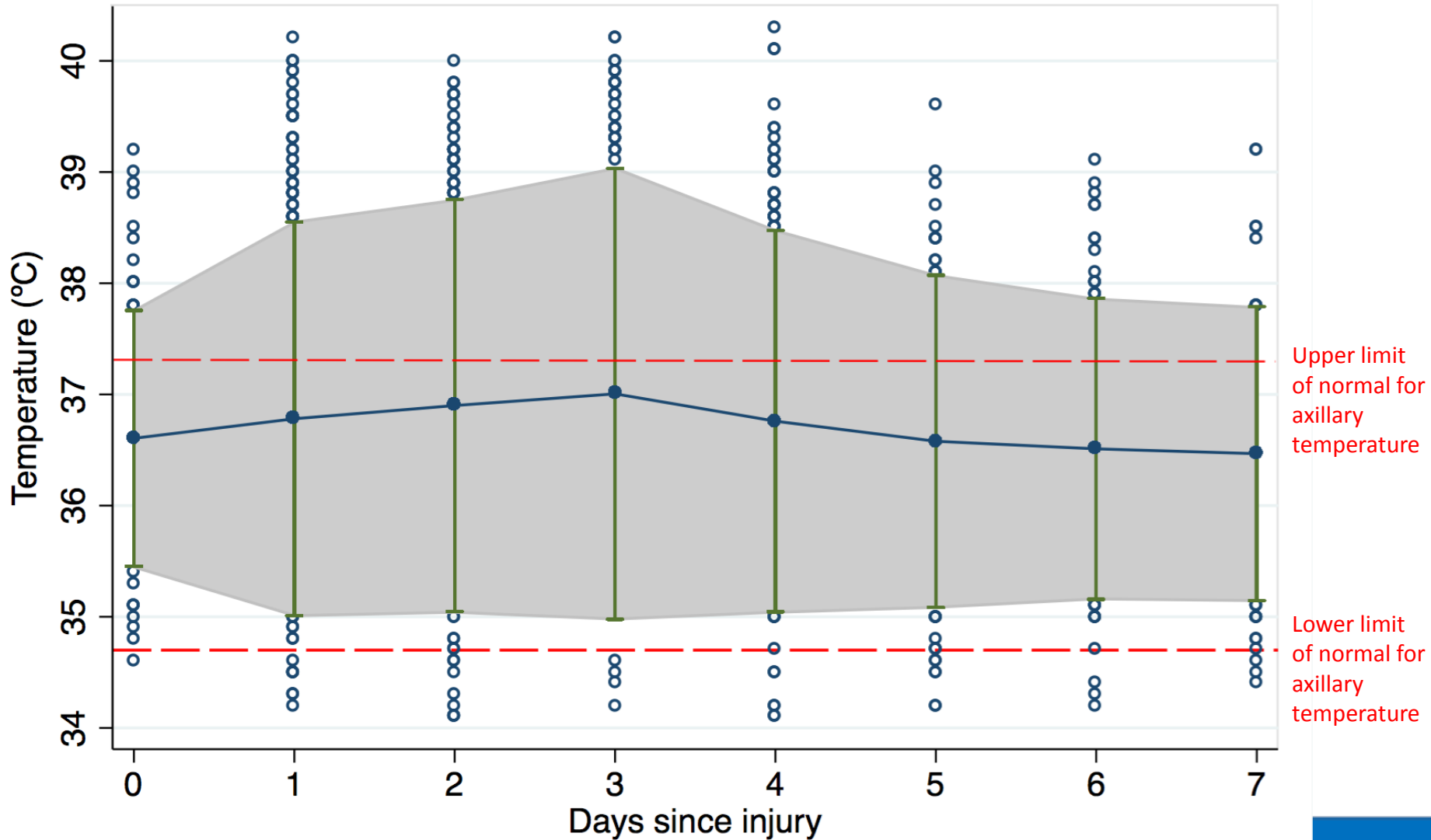
Results

- 22% re-presented for medical review with unexpected post-burn symptoms:
 - 10% unplanned re-admission
 - 80% reported high temperature as a symptom
 - Median day for re-presentation was post burn day 3
 - 2 % body area identified as a cut-off for increased risk of re-presentation.

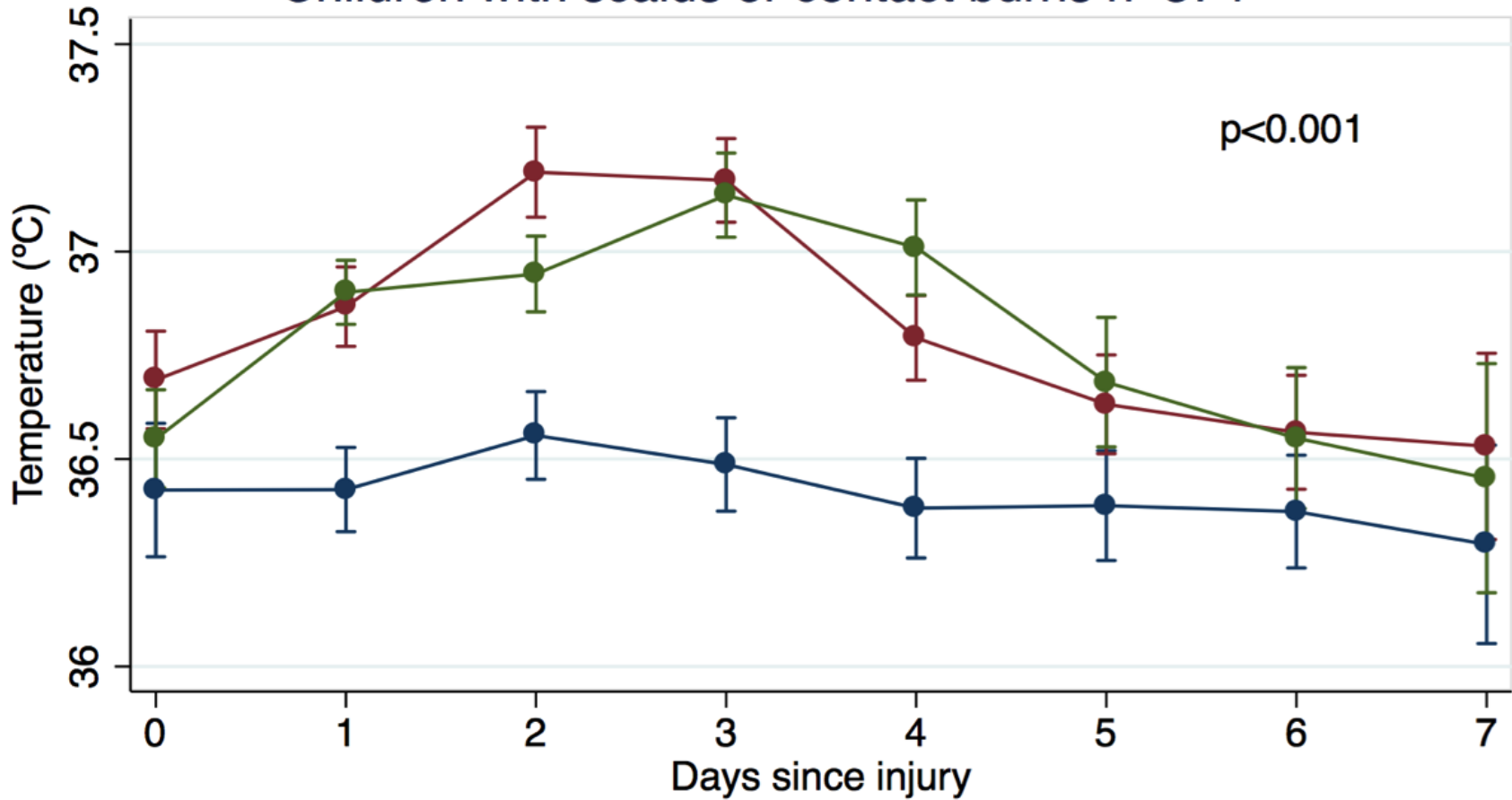
Children with scalds or contact burns n=374



Children with scalds or contact burns n=374



Children with scalds or contact burns n=374



- 0 to <2% TBSA group, ($p=0.278$)
- 2 to <5% TBSA group, ($p < 0.001$)
- 5 to <10% TBSA group, ($p < 0.001$)

1. A physiological response suggestive of an inflammatory response to injury is seen in burns of $\geq 2\%$ body area.
2. Peak for the physiological response and re-presentation with symptoms is post-burn day 3.

Some cases of re-presentation with febrile illness are likely to be attributable to an inflammatory response in the absence of infection.



MRC DPFS funding:

University of Bath, University of Brighton, Healing Foundation Children's Burns Research Centre, Queen Victoria Hospital, Chelsea and Westminster, Industry (Hartmann), Regulatory and IP expertise.

Development of a novel dressing to detect toxic bacteria – with a simple colour change

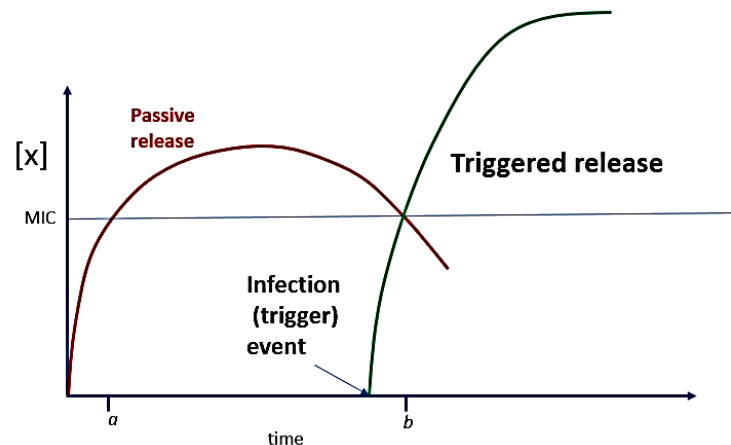


A problem in sensing:

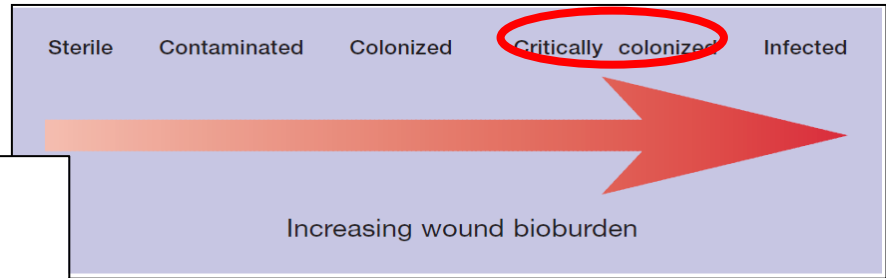
Can we detect that a wound is infected?

- Can we do this at an early stage?
- Can we do this before systemic infection / sepsis takes hold?
- Can we do this cheaply, easily and quickly?

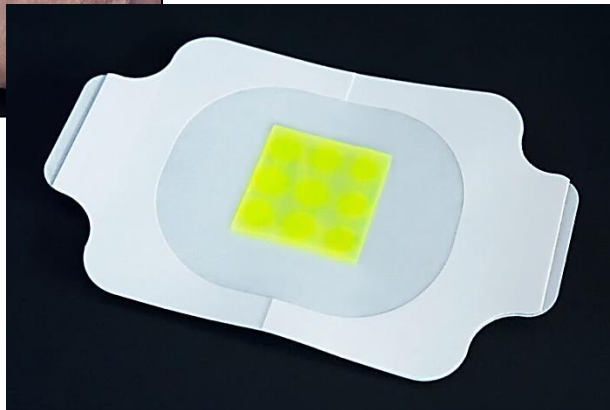
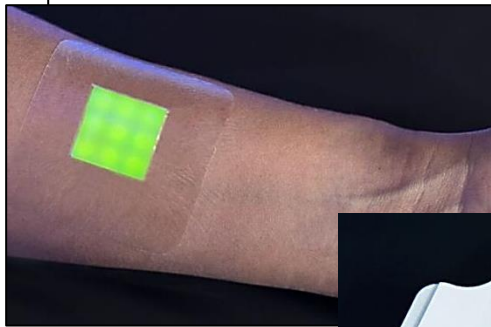
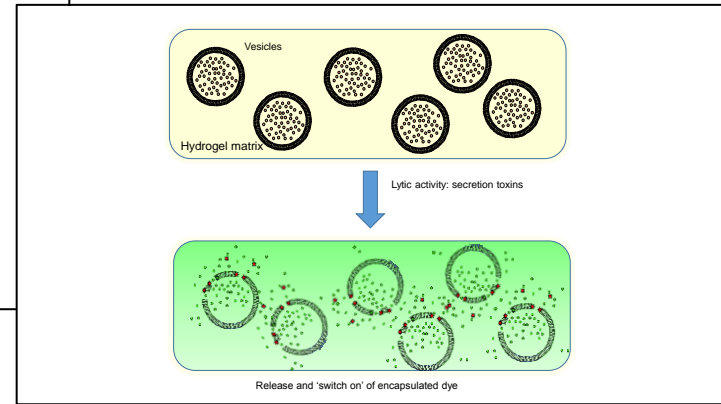
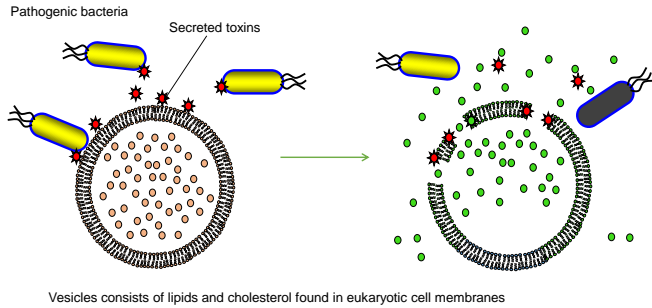
Model release profile from a surface reservoir of drug X:



Smartwound™



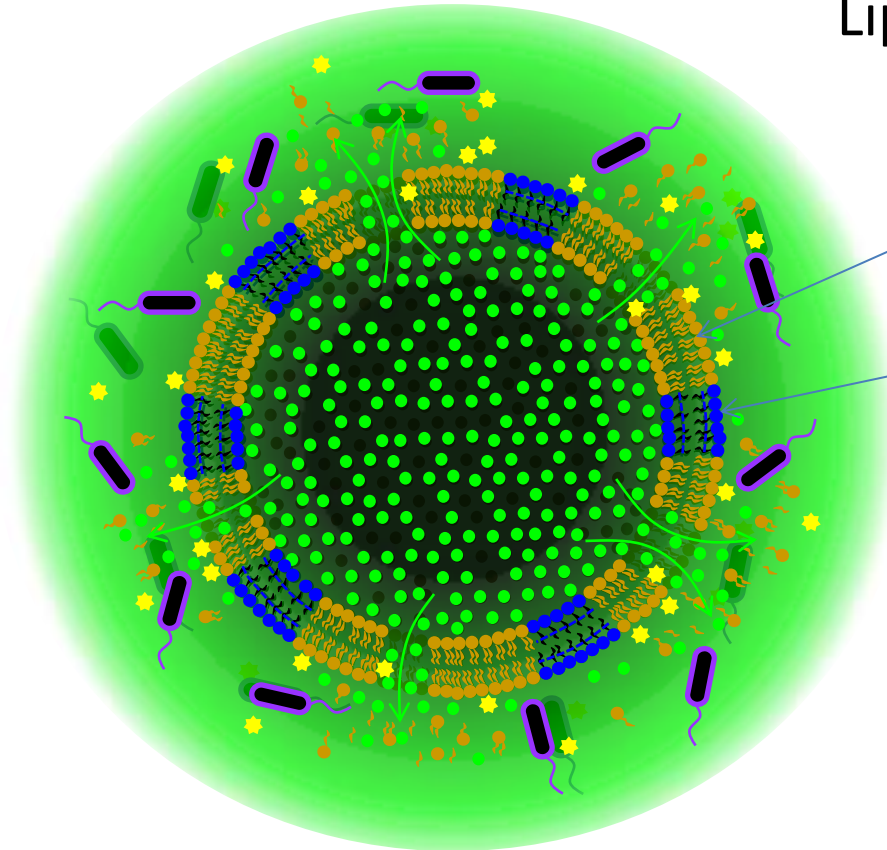
Mechanism of action: responds to bacterial virulence factors



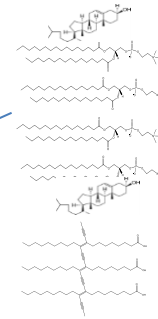
Point of care detection of 'clinically relevant' burn wound infection

Concept of detection

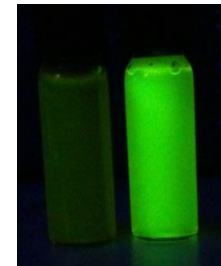
Triggered
release of dyes
from
liposomes



Lipids & cholesterol



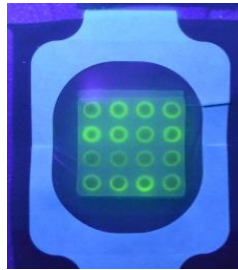
TCDA



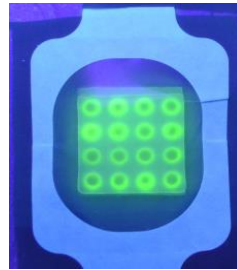
Patterned Hydrogels: response to toxins



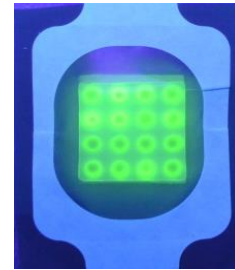
0 min



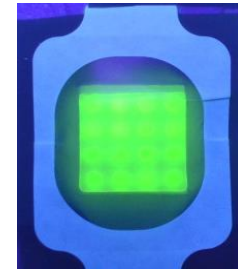
2 min



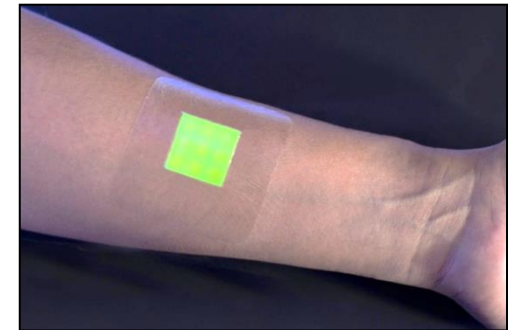
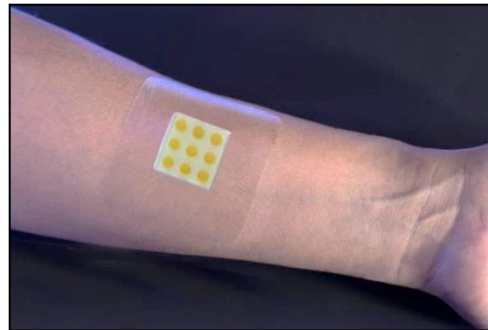
10 min



20 min



1 h



Patient Information

EVIDEnT

Study Title: Ex-Vivo study to investigate the sensitivity and specificity of a smart dressing to detect clinically relevant wound infection

We would like to ask if you to participate in this research study. Before you decide, you need to understand why the research is being done and what it will involve.

Please take time to read the following information carefully.

Version Number: 1.0

Date: 01/06/2016

Short Title: EVIDEnT: Ex-Vivo study to investigate the sensitivity and specificity of a smart dressing to detect clinically relevant wound infection.

Ethics Reference Number: 16/LO/1414
UnBristol R&D No: CH/2016/6025



Point of care detection of 'clinically relevant' burn wound infection

- Define 'clinically-important' infection. Determined in retrospect.
- Replicate trial in lab using patient samples to determine sensitivity and specificity. Lab blind to condition.
- Validate with test for genetic potential for bacterial toxin production qPCR.



The smart bandage that turns yellow to provide an early warning of infections

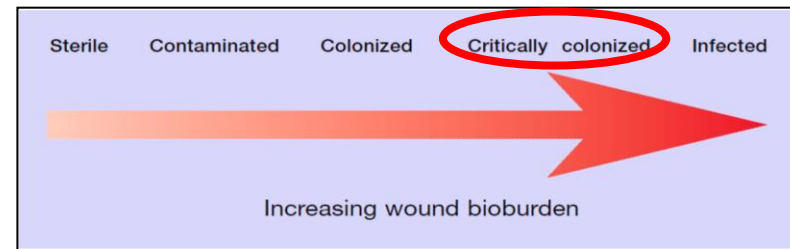
- The bandage can give an early warning of injuries going septic
- This could have the potential of preventing overuse of antibiotics
- Trials across the UK will establish how sensitive the bandages are to infections, and how specifically they react to different infections

Infection consensus statement



What is “clinically relevant burn wound infection”?

- BBA supported consensus statement through research sub-committee
- Systematic review
- Delphi process for maximum engagement with final consensus meeting



DRESSVOCS2



Research at UWE:
bacteria have characteristic “smells” due to VOCs
(Volatile Organic Compounds).

Aim: Identify a library of VOC ‘fingerprints’ for different bacteria using SIFT - Mass Spectrometry to analyse the air (headspace) around discarded wound dressings and compare to wound swab results.

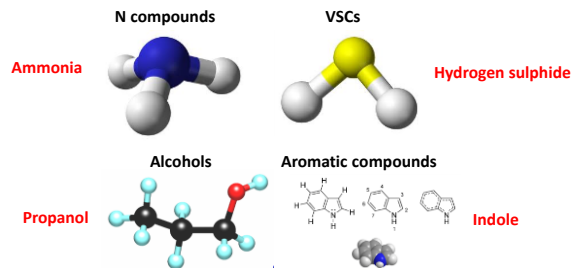
Technology could be developed into bedside electronic nose device to identify bacterial infection in wounds at POC.



DRESSVOCS2

Microbial volatiles

- **Volatile compounds** are produced by all microorganisms as part of their normal metabolism
- Largely non-functional metabolic by-products



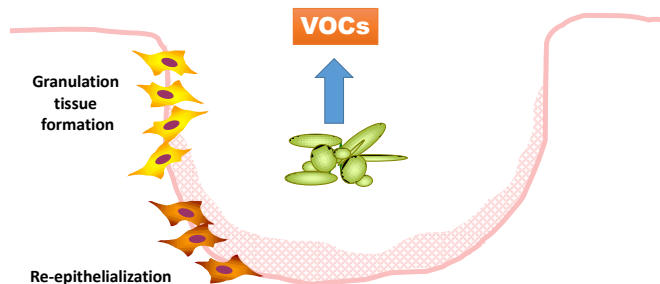
Non-invasive point of care detection of infection using bacterial 'volatiles':

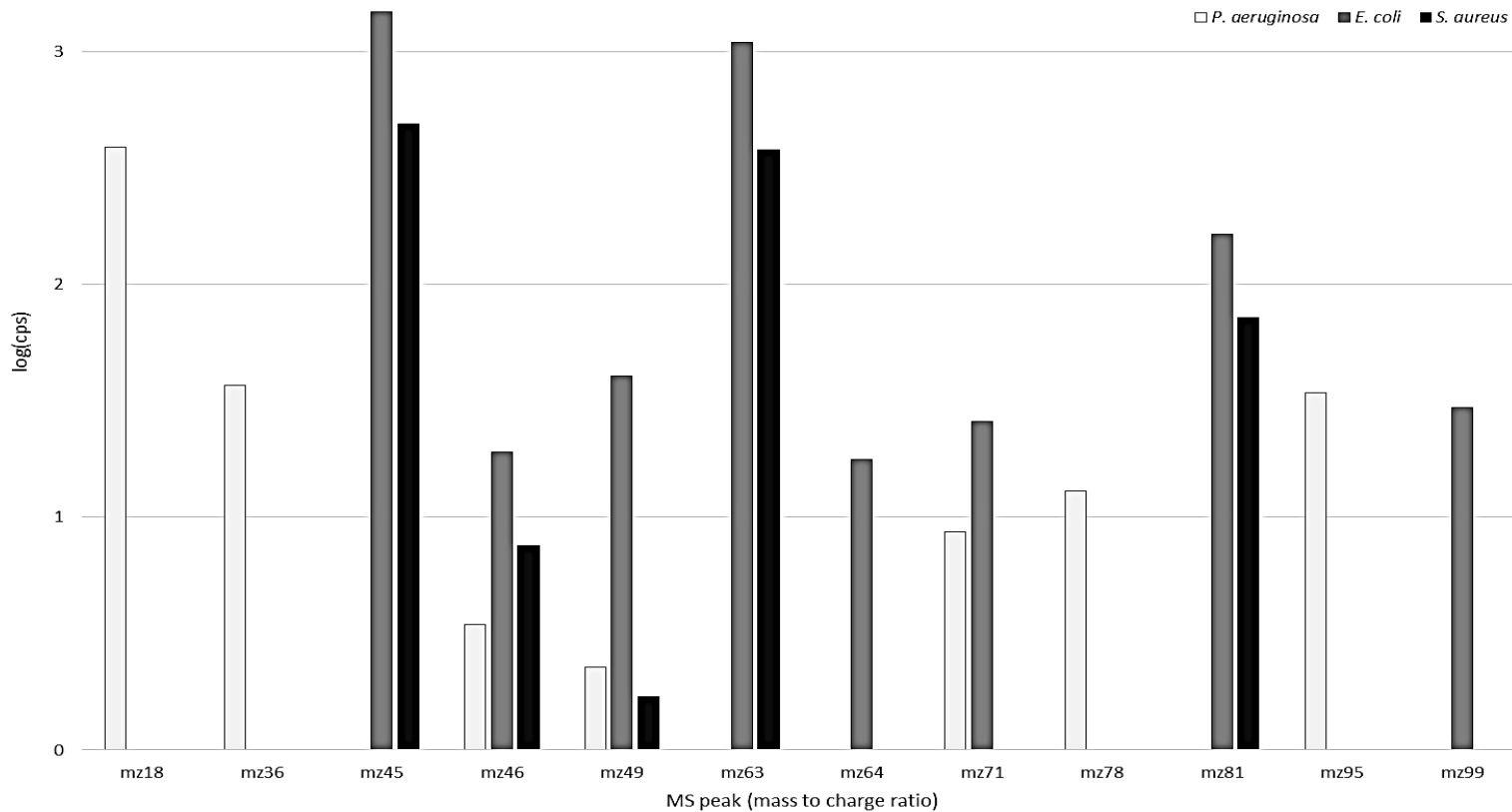
- Joint UWE / BCH PhD funded April 2016
- Second pilot study using wound dressings

Wound infection

“replicating organisms within the wound bed and surrounding soft tissue causing a subsequent host response that leads to a delay in wound healing”

Microbial populations produce destructive virulence factors





Mass charge peaks detected at levels significantly greater ($p < 0.05$) than control levels from dressing material inoculated with *P. aeruginosa* **PA2** (pale grey), *E. coli* **EC2** (dark grey) or *S. aureus* **SA3** (black).

AIM: specific diagnosis of infection at point of care to allow targeted treatment and reduction in unnecessary antibiotic use



Can skin grafting success rates in burn patients be improved by using a low friction environment – a feasibility study?

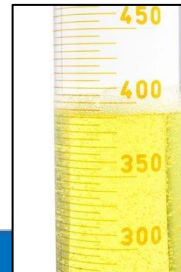
- 2nd NIHR grant for research into clinical burn care
- Multicentre study comparing skin grafting success using low friction nursing package with a retrospective cohort of patients prior to the use of Parafricta™ sheeting
- Aim to recruit 150 patients over 3 services - currently @ 120
- No safety issues
- Applying for HTA grant



Permissive Hypovolaemia in Paediatric Burns

Is a reduced fluid resuscitation regime safe in terms of patients staying well hydrated based on biochemical markers?

- **Patients:** 6 months – 16 years, 10-19 % surface area
- **2 groups:** Reduced fluid & traditional
- **Sampling:** Routine bloods and urine
- **Parameters (baseline & 24 hrs):** Sodium, Urea, Creatinine, Urine output, Skin grafting



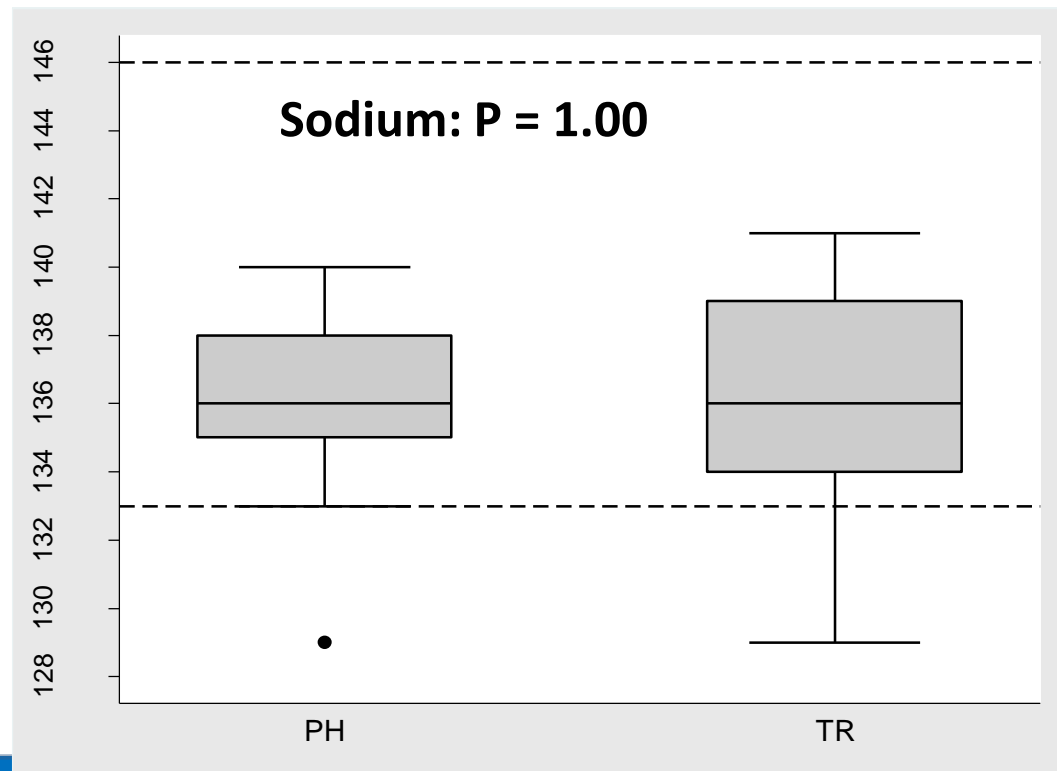
Results

PH = Permissive hypovolaemia (reduced fluid) – N = 13

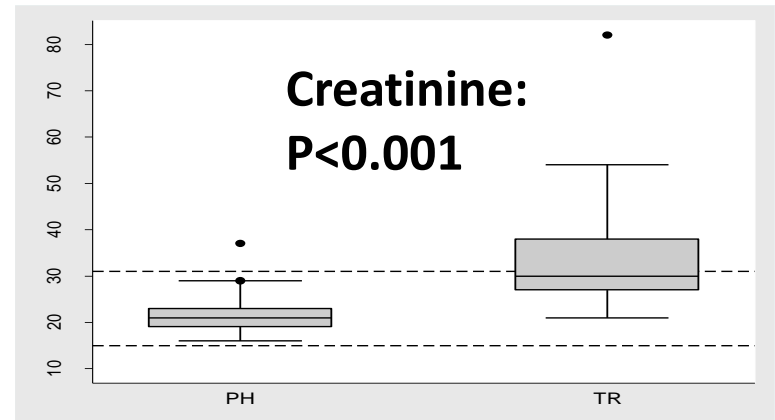
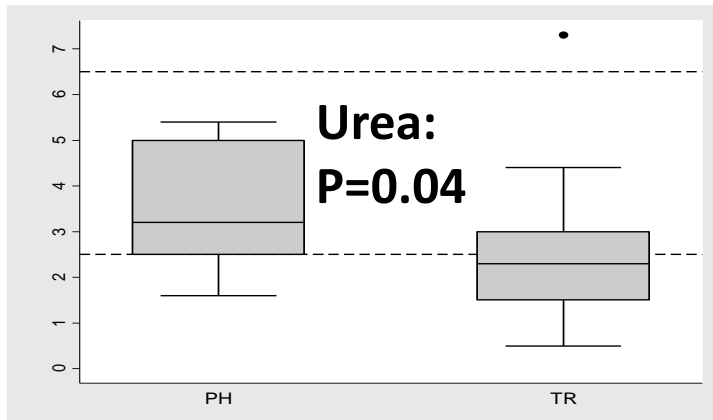
TR = Traditional resuscitation – N = 18

TR patients received mean 656 mL [IQR: 344-852]; $p=0.01$

PH patients received mean 200 mL (IQR: 161-377) iv fluids



Results



- Biochemical markers urea and creatinine more likely within normal reference range for patients on reduced fluids compared to those on traditional volumes.
- PH patients remain well hydrated with no adverse effects
- Evidence of over-resuscitation in TR group

Permissive Hypovolaemia in burns patients

Health Technology Assessment
Programme



*National Institute for
Health Research*

HTA no 16/109

Reduced fluid resuscitation regimen for burn injuries

Introduction

The aim of the HTA Programme is to ensure that high quality research information on the effectiveness, costs and broader impact of health technology is produced in the most efficient way for

- HTA grant application Feb 2017 led by Bristol
- Supported by BBA, BAPRAS, RSTN and I&E NIHR
- All burn services involved in grant application
- Oxford CTU involved

Optimising evidence-based decision-making for young people with burns by the development of a core outcome set and identification of outcome measurement tools: COSBy

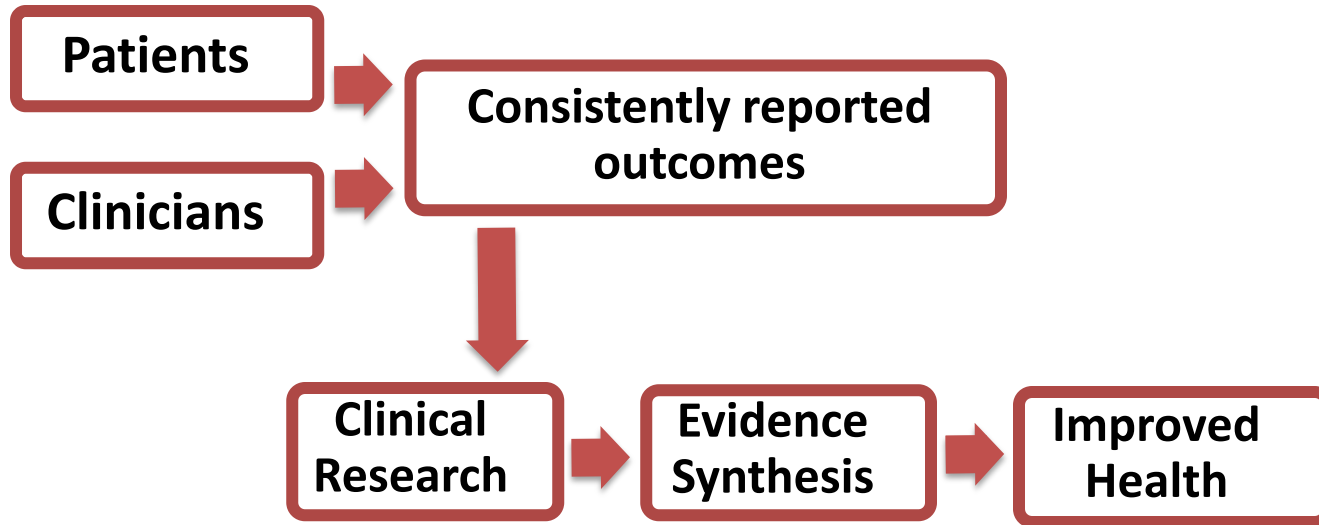
NIHR Doctoral Research Fellowship ~ £500, 000

October 2016 to September 2020

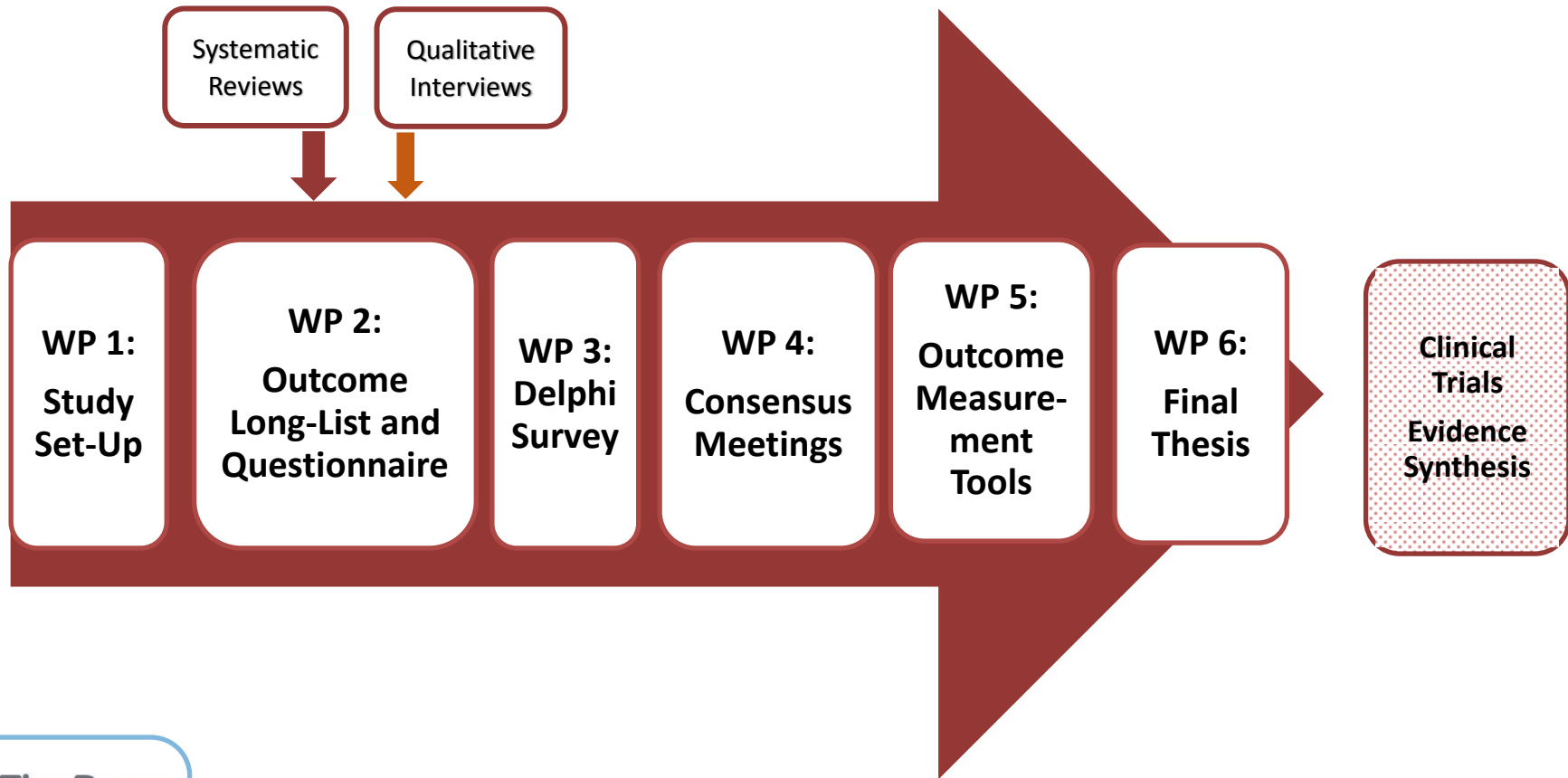
Supervised by Professor Jane Blazeby

Supported by British Burn Association, Journal editor (*Burns*) and medical director specialised commissioning

Core Outcome Set



Core Outcome Set Development



Roald Dahl Marvellous Charity

A road less travelled: mapping children's and families emotional journey following moderate to severe burn injury.



Karen Coy
Kate Beckett
Shirin Pomeroy
Julia Cadogan
Paula Brock



University Hospitals Bristol 
NHS Foundation Trust



Children's Burns
Research Centre

- 25 -30 patients admitted each year with severe burns.
- Little known about parent and child perspectives on psychological journey.
- Aim:
 - to map the psychological and emotional journey following burn injury
 - to develop a short film for staff to inform practice and allow targeted supportive information

“This was our first nurse led research project which captured patient/family and staff experiences of burn care and mapped the psychological and emotional journey following significant burn injury and to assess patient and family needs, current support and identify areas for service improvement.”





Results

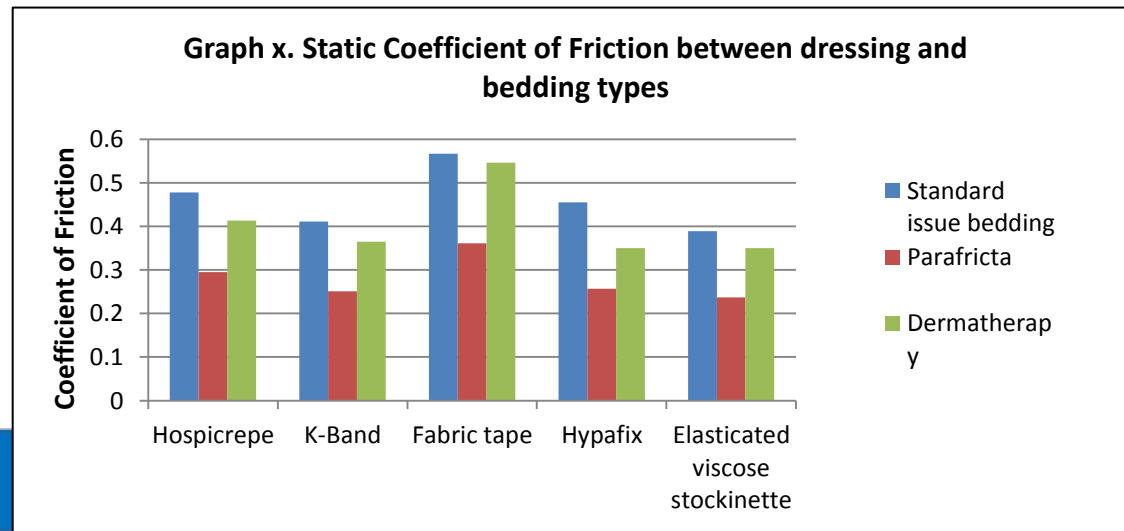
- **6 key themes:** normality, catastrophe, dawning reality, riding the emotional rollercoaster, aftershocks, adjusting to a new normal
- Similarities between parents and health professionals
- **A Co-design family event February 2016:**
 - Focus event for 'A Road Less Travelled'
 - 10 parents, 10 children and 8 health professionals attended to view the film and encourage collaboration between service users and service providers.

University of Bristol Student Projects (eSSC)

Investigating the static and dynamic coefficient of friction of hospital fabrics and dressings.

Joanna Miles

- Friction can lead to skin graft failure
- Levels of friction between different bedding types and dressing covers used to cover skin grafts. Both static and dynamic coefficients of friction measured.
- Results for Parafricta sheets promising

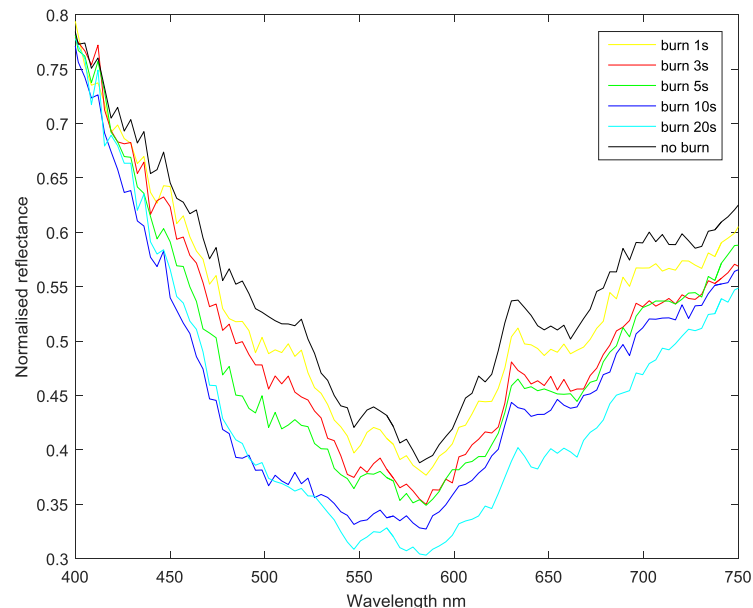


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Hyperspectral imaging and burn depth assessment

Jack Whiting

- Burn depth assessment is a challenge.
- Clinical evaluation inaccurate.
- HSI has potential to assess burn depth in real-time.



Spectral responses of single, randomly chosen pixels from burns of different durations

Impact?

- Research networks enabling multicentre trials to solve true clinical problems for patients
- Translational research and innovation
- National profile for burns research: NIHR Portfolio
- Evidence synthesis: core research outcomes
- Medical student impact
- Patient and public involvement



The Team



Network of clinicians and scientists



Trial manager



Statisticians with burns knowledge



Research nurses

Research Associate



Research Coordinators



Burns qualitative expertise



PhD students

Health economist



Acknowledgements

THE FREE FOUNDATION

MAKING A WORLD WITHOUT SCARS A REALITY



University of
BRISTOL



Bristol Royal Hospital
For Children



UNIVERSITY OF
BATH



CARDIFF
UNIVERSITY

PRIFYSGOL
CAERDYDD



University of the
West of England

University Hospitals Bristol



NHS Foundation Trust



**The Burns
Collective**
Leading Children's Burns Research
A Scar Free Foundation Initiative

Children's Burns
Research Centre

“The need to standardise care. This ranges from the need for agreement about diagnosis, definitions and interventions, to protocols for standardised care pathways and the development and routine use of standardised clinical and patient reported outcomes.”

“...to achieve a cultural shift towards greater research participation, development of larger clinical cohorts with associated methodological opportunities and therefore better quality research outcomes.”

“Translational studies: planning and gradual implementation of a program of translational studies leading to standardisation of care across main speciality areas, as outlined above.”



Design

A qualitative study using structured around The Kings Fund *Experience Based Co-Design* toolkit.

- In depth semi structured filmed interviews with parents of children following burn injury (of >10% TBSA)
- Audio recorded interviews with a range of service providers from the South West UK Children's Burn Centre
- Parent and staff interviews evaluated and validated to identify key themes and 'touch points' in the patients journey.
- Filmed interviews edited using the key themes, to produce a short film.
- Co-Design Event- film shown to parents and staff.

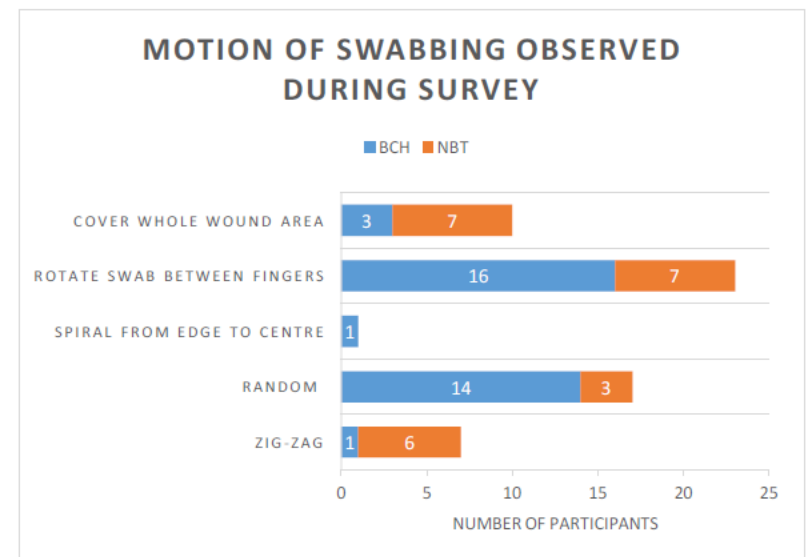
University of Bristol Student Projects (eSSC)

How do we swab? vs How should we swab?

Ines Clement

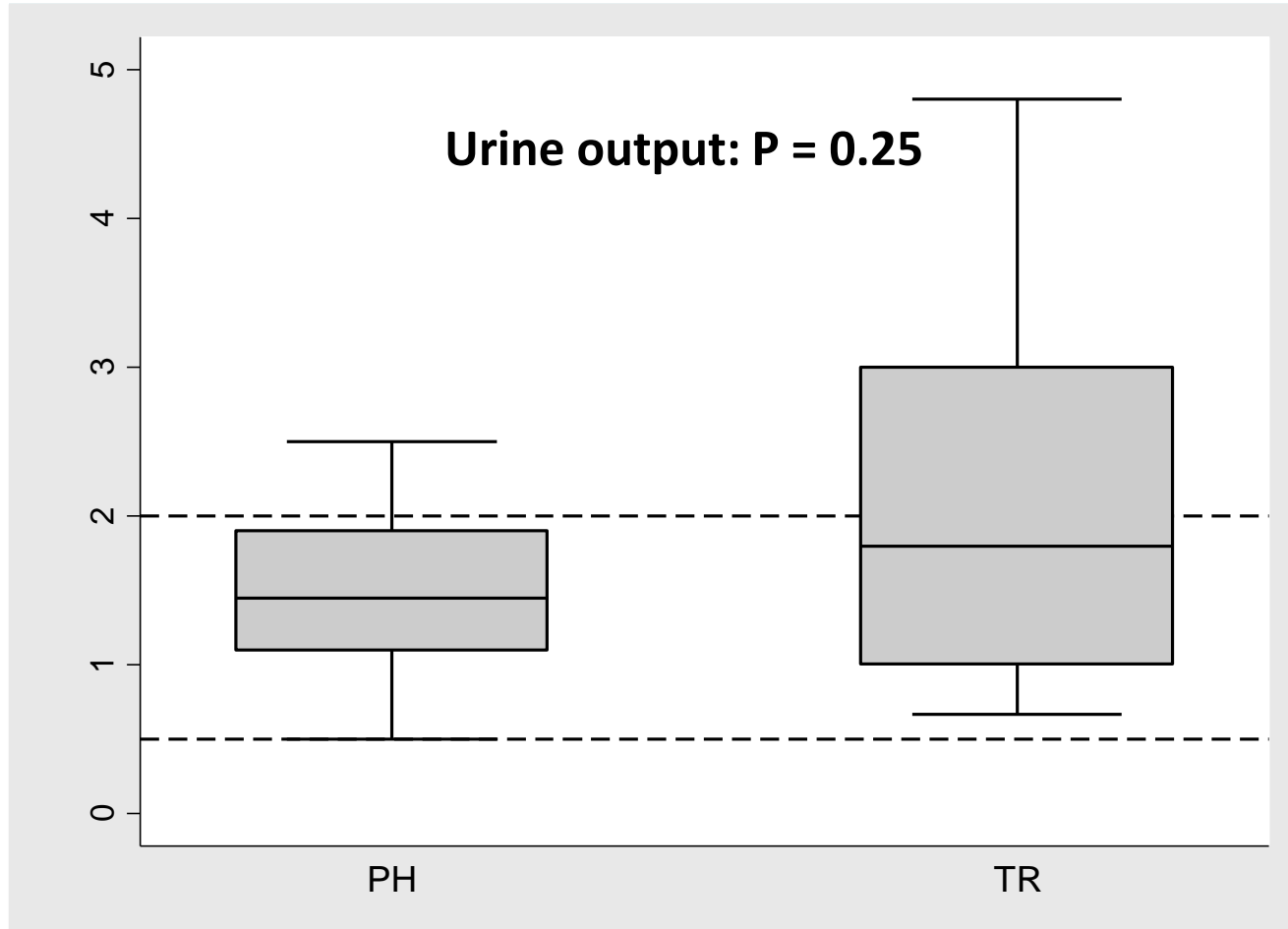
Conclusions:

- Clean the wound with sterile saline before taking the swab sample
- The Essen technique of swabbing is shown to detect the most clinically relevant bacteria
- Wide variation in swab techniques observed
- Opportunity for production of an evidence based burn specific wound swabbing guideline to standardise practice
- Potential for auditing this process



Graph of different motions of swabbing observed in each hospital

Results



NO DIFFERENCE AT ADMISSION
($P > 0.05$ for all measures)

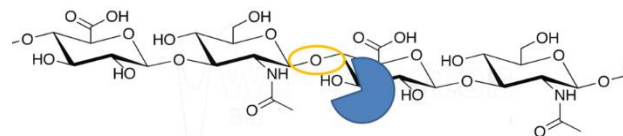
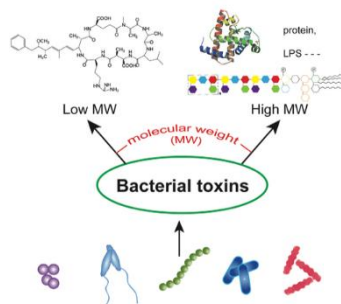
Success?

Team work 😊



Triggers for detecting infection

Primary

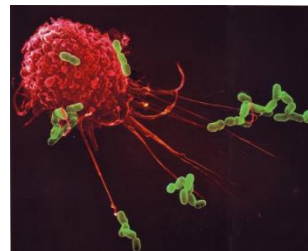


Bacteria secrete cytolytic toxins

Bacteria secrete enzymes i.e. proteases, hyaluronidases, ureases

Secondary

Immune system response:
Cytokines, macrophage,
proteases



Tertiary

Local Temperature change;
pH change

pH ↑ or ↓; Skin T > 36°C

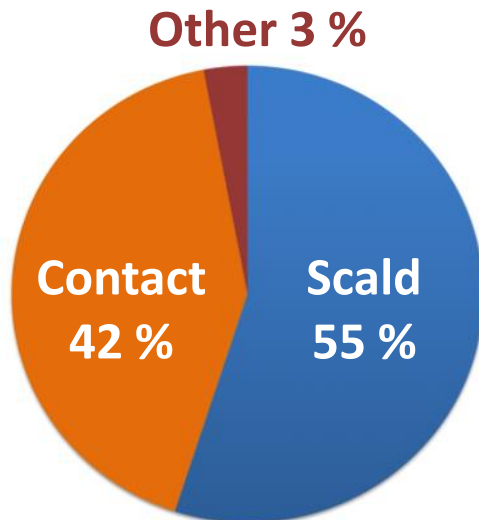
MISTIC: Cohort

Recruited: **625** children

Median Age: 1y 7m [IQR: 1.15 to 2.45]

Median % TBSA: 1.00 [IQR: 0.30 to 2.50]

Burn Type:



Follow-up:

Medical notes data **100%**

Post-injury follow-up **76%**

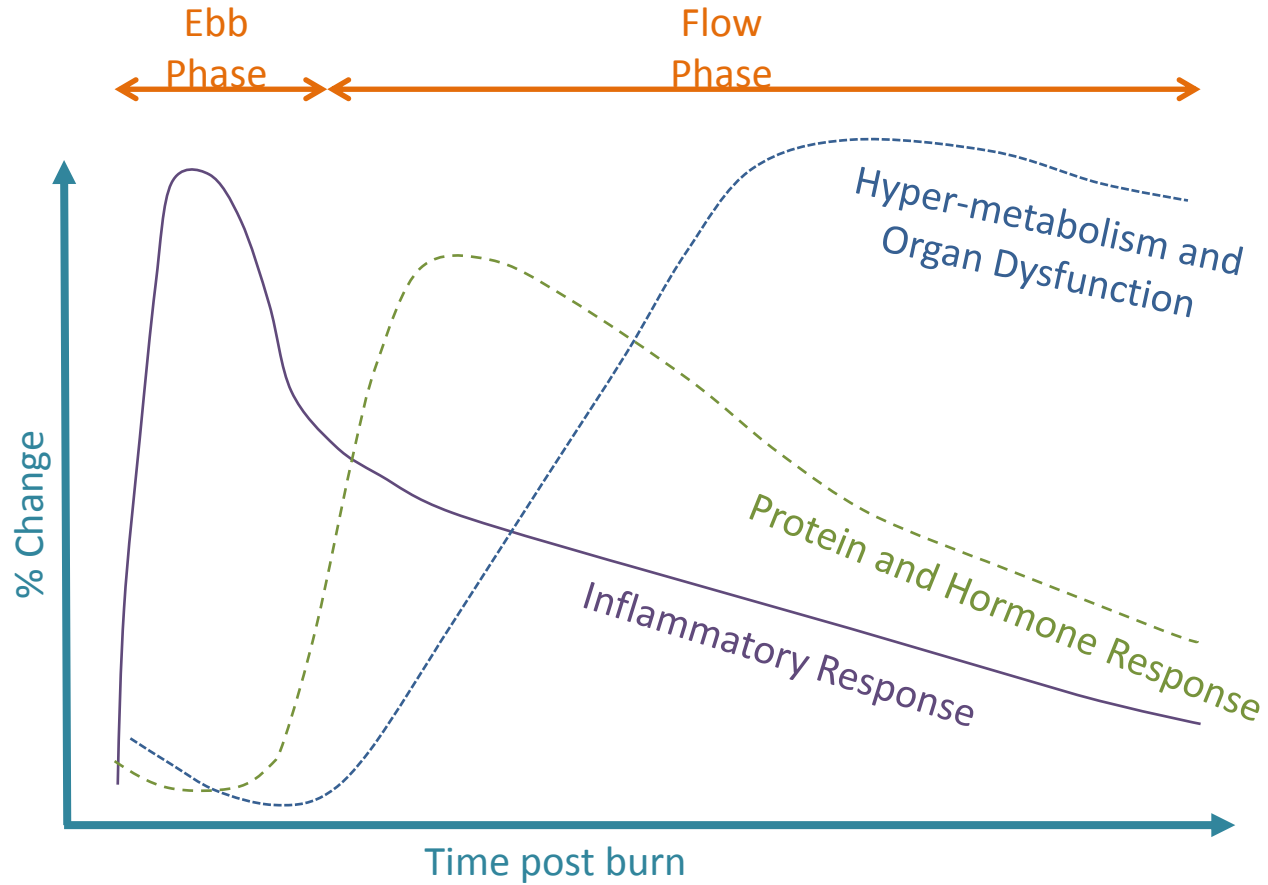


SIRS and Sepsis

Sepsis = “SIRS in the presence of, or as a result of, suspected or proven infection ” (2005)

Sepsis = “a life-threatening organ dysfunction caused by a dysregulated host response to infection” (2016)

Systemic responses following burn injury



Smartwound™

To create a wound dressing that provides an early indication of wound infection at point of care.



Medical Research Council

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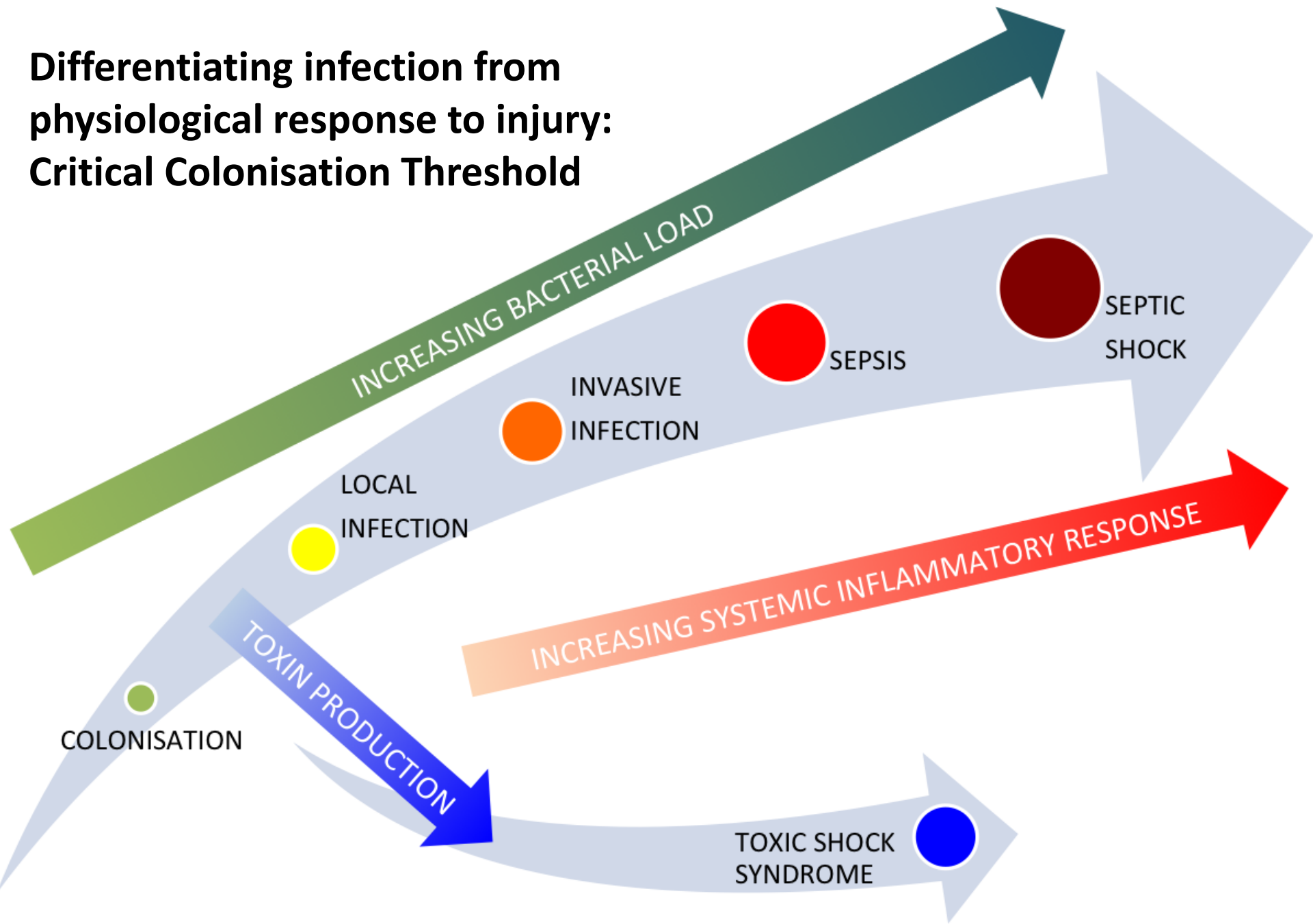
Biomedical Catalyst:

DPFS/DCS Full
PROPOSAL

Document Status: With Submitter
MRC Reference: MR/N006496/1

- (a). Final dressing design for small scale production of the dressing.
- (b). Establish toxicology of dressing.
- (c). Establish sensitivity and specificity of the diagnostic wound dressing: in vitro study of burn patients with suspected infections.
- (d). License technology to industrial partners for pilot scale production

Differentiating infection from physiological response to injury: Critical Colonisation Threshold



Clinical study EVIDEnT

Hospitals: Bristol Children's;
Southmead; Chelsea & Westminster;
Queen Victoria Hospital E. Grinstead

Clinical judgement /
microbiology:
infected yes/ no



Swabs

Sussex Clinical
Trials Unit

Wound dressing

**Brighton
University:** qRT-
PCR on wound
swabs:

Virulence factor expression
yes / no

Wound dressing test:
Infected / Not infected /
unsure

University of Bath:
wound infection
dressing test

Patient recruitment starts October 2016

Recent Patient and Public Involvement

YPAG July 2016: Clinical team presented current projects to Clinical

Res
Adv **“Big Conversation” PPI event at UHBristol 14th September 2016**

The research team at Bristol Royal Hospital for Children presented science experim
in relative
dressing
hands o
distribu
membe
public a
feel of l



Public Advisory Group, University of Bristol 23rd September 2016

Two of the clinical team Research Nurses presented the EVIDENT study and asked for feedback on a potential NIHR HTA application on fluid resuscitation in burns.

Burns Research Involvement Group

We have a database of parents, patients and members of the public for those who want to be involved in research

