Making a difference through practice led pressure ulcer research

Professor Jane Nixon
Deputy Director
Institute of Clinical Trials Research
University of Leeds
Making a difference through practice led pressure ulcer research

Jane Nixon PhD, MA, BSc(Hons) RGN
Professor of Tissue Viability and Clinical Trials Research
Clinical Trials Research Unit
School of Medicine
University of Leeds
Impact of Pressure Ulcers on QOL

QOL Conceptual Framework

Symptoms
- Pain & Discomfort
- Exudate
- Odour

Physical Functioning
- Mobility
- Daily activities
- General malaise
- Sleep

Psychological Well-being
- Mood
- Anxiety & Worry
- Self-efficacy & Dependence
- Appearance & self-consciousness

Social Functioning
- Isolation
- Participation

Source: Gorecki, C et al
UK world leading pressure ulcer prevention clinical research

Critical mass Australia, Japan, Germany, the Netherlands, Belgium and USA

UK has 4 fundamental ingredients

1. Nursing research agenda
2. Research funding through National Institute for Health Research Large trials, Programme Grants, Research for Patient Benefit, Fellowships
3. Clinical Research Networks – Research Nurse infrastructure
4. Clinical Trials Units/Methodologists
Research areas/pathways - Leeds

- QOL
  - Living with a PU
  - Conceptual Framework
  - Outcome Measure Development
  - PUQOL Field Testing
  - PUQOL Instrument

- Risk Factors
  - Pain
    - Living with PU
    - QOL/Pain systematic reviews
    - Epidemiology Prevalence
    - Epidemiology Risk Factor
    - Pain assessment and management

- Severe PU
  - Case studies
  - Clinical Practice – NHS investigation
  - Clinical Practice Service Development

- Mattress effectiveness
  - OR mattress
  - HTA Pressure
  - HTA PRESSURE 2
  - Early phase trial design

- Erythema Imaging
  - Epidemiology Risk Factor Studies

- Systematic review
  - Risk Assessment

- Pain
  - Living with PU
  - QOL/Pain systematic reviews

- Epidemiology
  - Prevalence
  - Risk Factor Studies

- Severe PU
  - Case studies
  - Clinical Practice – NHS investigation
  - Clinical Practice Service Development

- Mattress effectiveness
  - OR mattress
  - HTA Pressure
  - HTA PRESSURE 2
  - Early phase trial design
Pain and pressure ulcers

Living with a pressure ulcer

Qualitative study

Patients reported pain preceding PU development and said nurses ignored their concerns

Living with a pressure ulcer

QOL and Pain systematic reviews

Pain worst symptom of having a pressure ulcer. Pain impacts upon quality of life and is not addressed by hcps
# Pain and pressure ulcers

## Extent of pressure area related pain

### Prevalence hospital and community populations

<table>
<thead>
<tr>
<th></th>
<th>Hospital Patients</th>
<th>Community Patients</th>
<th>Pain Severity</th>
<th>Pain Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>3397 hospital patients, <strong>15.9%</strong> pressure area pain</td>
<td>287 community patients with PUs, <strong>75.6%</strong> reported pain</td>
<td>Severity not related to PU Category</td>
<td>Pain reported on skin sites with no PUs</td>
<td>Mix of inflammatory and neuropathic pain</td>
</tr>
</tbody>
</table>

---

© CTRU 2013

[CTRU Logo]

PURPOSE

UNIVERSITY OF LEEDS
### Is pain important in predicting Category 2 PU development?

**Cohort study hospital and community populations**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds Ratio</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence of category 1 PU (yes vs no)</td>
<td>3.25</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Presence of skin alterations (yes vs no)</td>
<td>1.98</td>
<td>0.0014</td>
</tr>
<tr>
<td>Presence of pain on a normal, altered or Category 1 skin site (yes vs no)</td>
<td>1.56</td>
<td>0.0931</td>
</tr>
</tbody>
</table>
Severe PU

• Inquiry style study (Laming Inquiry, 2003)
• Innovative retrospective case study design to examine whole system failures

Results:

- Clinicians fail to listen to patients/carers
- Clinicians fail to assess risk/respond to superficial PUs
- Co-ordination failures
- Current practice of investigation does not include patient account and as a result there are gaps
Risk Assessment

Which of your patients are at risk?
Multiple risk factors – which risk factors are most important?
Only 0.34% of hospital patient admissions will develop a pressure ulcer.
PU Risk Factor Systematic Review

Research Question:
Which risk factors are independently predictive of PU development in surgical, medical and community-based populations?

Result
15 Risk factor Domains
46 Sub-Domains
How useful is this for clinical practice?

Flow of studies:
5,462 Abstracts/papers retrieved
5,097 Excluded – not satisfying eligibility criteria
365 Potentially relevant, obtained in full for further scrutiny
311 Excluded – not satisfying inclusion criteria
Included
54 Studies
34 Prospective cohort
9 Record Review
11 RCTs
PU Risk Factor Systematic Review

Key Risk Factor Themes included:
- Immobility
- Skin condition
- Perfusion (including diabetes)

Less consistently emerging themes included:
- Moisture
- Nutrition
- Gender
- Race
- Medication
- Body temperature
- Age
- Mental Status
- Sensory Perception
- General Health Status
- Haematological measures
Risk Assessment Framework

Aim: to agree a pressure ulcer risk factor minimum data set (MDS) to underpin the development & validation of a risk assessment framework (RAF) for use in clinical practice.
Consensus methods

Questionnaires
Face to face meetings
Risk Factor Progression

15 Risk factor domains & 46 sub-domains of the systematic review reduced to 26 risk factors following initial expert group meeting

1. Immobility
2. Existing PU
3. Previous PU
4. General skin status
5. Chronic wound
6. Friction & shear
7. Sensory Perception
8. Diabetes
9. Pitting oedema
10. Lowering BP
11. Smoking
12. Cardiovascular disease
13. Albumin
14. Haemoglobin
15. Skin moisture
16. Dual incontinence
17. Medication
18. Acute illness
19. Infection
20. Body Temp
21. General health status
22. Nutrition
23. Mental status
24. Race
25. Gender
26. Age

Cycle 1:
Risk factor pre-meeting questionnaire
1. Immobility
2. Existing PU
3. Previous PU
4. General skin status
5. Diabetes
6. Nutrition
7. Sensory Perception
8. Dual incontinence
9. Skin Moisture
10. Acute Illness
11. Body Temp
12. Albumin

Cycle 1:
Risk factor post-meeting questionnaire
1. Immobility
2. Existing PU
3. Previous PU
4. General skin status
5. Perfusion
6. Diabetes
7. Nutrition
8. Sensory Perception
9. Moisture

Cycle 2:
Minor Refinement of Risk Factors (incorporated in pre-meeting questionnaire)
1. Immobility
2. Existing PU
3. Previous PU
4. General skin status
5. Perfusion
6. Diabetes
7. Nutrition
8. Sensory Perception
9. Moisture

Risk Factors for Screening & Full Assessment Stage of MDS and RAF

Screening Stage
Immobility
PU Status (existing & previous)

Full Assessment Stage
Immobility
PU Status (existing & previous)
General skin status
Perfusion
Diabetes
Sensory perception
Moisture
Nutrition
Initial draft of the RAF and underpinning MDS

Reassess if condition changes and at locally specified times

Currently not at risk, Advise patients of PU risk factors

Mobility Status (tick applicable)
- Does the patient walk without help?
- Does the patient change position?

PU Status (tick applicable)
- Current PU (category ≥1)?
- Reported history of PU?

Ticks in all un-shaded boxes proceed to full assessment

Ticks in any shaded boxes proceed to full assessment

Screening for all patients

Immobility
General Immobility Descriptors (tick applicable to patient)
- Bedfast
- Chairfast
- Walks with assistance:
  - Frequency and Magnitude of Movement

Skin Site
- Vulnerable Skin e.g. redness, dryness, paper thin. (tick applicable)
- NPUAP/EPUAP PU Category

Presence of other PU Risk Factors (tick applicable)
- Diabetic
- Nutrition: Unplanned weight loss
- Poor nutritional intake
- Low BMI
- High BMI
- Perfusion: Conditions affecting central circulation e.g. shock, heart failure, hypotension
- Conditions affecting peripheral circulation e.g. peripheral vascular/arterial disease

Tick applicable
- No
- Frequent (1 or 2 times a day)
- Constant

Pathway allocation
- Not at risk pathway
- Primary prevention pathway (at risk)
- Secondary prevention and treatment pathway (pressure ulcer category 1 or above or scarring from previous pressure ulcer)
Pre-test - Focus Groups
Take home messages

Look at your patients skin

Ask and listen to patients

Problem solve for complex patients
References

Pain


Risk factors


References


Acknowledgement

PURSUN (Pressure UlceR Service User Network)

NIHR: This presentation presents independent research funded by the National Institute for Health Research (NIHR) under its Programme Grants for Applied Research Programme (RP-PG-0407-10056). The views expressed in this presentation are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health.
TVS 2014 - The Conference
@ York University

Save the date! 1st & 2nd April 2014

Student Competition to be launched
Student Rate £35.00 per day