Improving Efficiency And Effectiveness In Managing Chronic Oedema In Community:

On The Ground Education Project (OGEP)

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NATIONAL LYMPHOEDEMA EDUCATION AND RESEARCH LEAD WALES
WHAT'S THE PROBLEM?

REFERRALS
PROPOSAL / BID

• Health Technology Funding (131k) – pilot in Cardiff (population of 479,000)
• On the Ground Education Project employed two lymphoedema specialists for 9 months
• New education model
• Take the education directly to the community nurses
• Video Prescriptions – patient story/ training
• Support from industry
AIM OF THE PROJECT

• Raise awareness to identify patients with oedema and refer earlier
• Deliver education to enable effective prompt management of oedema
• Treat leaking “wet legs” and superficial wounds quickly

Reduce waste, harm and variation
METHOD

• Qualitative and Quantitative research
• Purposive sample \((n=100)\)
• Data collection (3 months pre and post intervention)
• Health Economics (data form) and QOL (EQ5D5L)
• Focus Groups with community nurses
• Ethical approval
ON THE GROUND EDUCATION (OGEP)

- Day to day workload
- Prompt treatment
- Early identification of patients
- Challenge practice
- Reflection
WHAT HAPPENED ON THE GROUND?

Reactive not Proactive care
THE INTERVENTION

• Actively treated patients with community nurses
• Why do the same thing if not improving?
• Reflection in practice
• Accredited learning
• Video prescription – patients story
• Evidence based care?
• Opposition to change
THE RESULTS
<table>
<thead>
<tr>
<th>Location</th>
<th>Dates</th>
<th>Patients seen</th>
<th>Patients referred to LO</th>
<th>Nurses worked with</th>
<th>Attended Agored</th>
<th>Attended Wellbeing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barry 1 &amp; Barry 2</td>
<td>15/06/16 – 10/08/16</td>
<td>81</td>
<td>20</td>
<td>11</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Barry 1</td>
<td>15/06/16 – 10/08/16</td>
<td>64</td>
<td>15</td>
<td>12</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Barry 2</td>
<td>15/06/16 – 10/08/16</td>
<td>64</td>
<td>15</td>
<td>12</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Whitchurch</td>
<td>12/12/16 – 27/01/17</td>
<td>117</td>
<td>17</td>
<td>15</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>Rhiwbina</td>
<td>31/10/16 – 02/12/16</td>
<td>97</td>
<td>22</td>
<td>10</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Radyr</td>
<td>01/04/17 – 26/05/17</td>
<td>64</td>
<td>15</td>
<td>12</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Cowbridge</td>
<td>11/08/16 – 10/09/16</td>
<td>51</td>
<td>13</td>
<td>7</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Penwin</td>
<td>29/05/17 – 30/06/17</td>
<td>47</td>
<td>9</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Splott</td>
<td>24/07/17 – 11/08/17</td>
<td>40</td>
<td>6</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ely</td>
<td>06/02/17 – 31/03/17</td>
<td>68</td>
<td>13</td>
<td>13</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Riverside</td>
<td>06/02/17 – 31/03/17</td>
<td>97</td>
<td>22</td>
<td>10</td>
<td>2</td>
<td>9</td>
</tr>
</tbody>
</table>
## SUMMARY

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients seen</td>
<td>842</td>
</tr>
<tr>
<td>Patients referred to Lymphoedema</td>
<td>167</td>
</tr>
<tr>
<td>Number of Nurses worked with</td>
<td>130</td>
</tr>
<tr>
<td>Number attended AGORED session</td>
<td>83</td>
</tr>
<tr>
<td>Attended Wellbeing session</td>
<td>75</td>
</tr>
</tbody>
</table>
COMMUNITY NURSES

- Band 3: 72%
- Band 5: 13%
- Band 6: 12%
- Band 7: 2%

Total nurses worked with = 130
TOTAL PATIENTS SEEN

Swelling vs At Risk

842 patients

- Swelling: 45%
- At Risk: 55%

Complex: 21%
Severe: 15%
Moderate: 30%
Mild: 38%
19% OF PATIENTS WITH OEDEMA HAD ONE OR MORE EPISODES OF CELLULITIS
62% INCREASE IN REFERRALS TO LYMPHOEDEMA SERVICE

June 2015 - May 2016: 716
June 2016 - May 2017: 1167
## HEALTH ECONOMIC RESULTS

<table>
<thead>
<tr>
<th></th>
<th>Pre Intervention</th>
<th>Post Intervention</th>
<th>Cost savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>District Nurse Visits</td>
<td>£117,156</td>
<td>£54,886</td>
<td>-£62,270</td>
</tr>
<tr>
<td>Cost of Dressings</td>
<td>£52,419</td>
<td>£19,667</td>
<td>-£32,752</td>
</tr>
<tr>
<td>Cellulitis hospital admission</td>
<td>£22,950</td>
<td>£2,550</td>
<td>-£20,400</td>
</tr>
</tbody>
</table>

* 97 Patients over a 3 month period
<table>
<thead>
<tr>
<th>Healthcare Resource</th>
<th>Baseline</th>
<th>3 month later</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of times District Nurse visited home</td>
<td>97</td>
<td>£117,156</td>
<td>£54,886</td>
</tr>
<tr>
<td>Cost of times GP visited home</td>
<td>97</td>
<td>£5,760</td>
<td>£3,480</td>
</tr>
<tr>
<td>Cost of times telephoned GP</td>
<td>97</td>
<td>£628</td>
<td>£248</td>
</tr>
<tr>
<td>Cost of times visited GP surgery</td>
<td>97</td>
<td>£828</td>
<td>£144</td>
</tr>
<tr>
<td>Cost of times you attended A and E</td>
<td>97</td>
<td>£966</td>
<td>£414</td>
</tr>
<tr>
<td>Cost of nights on ward</td>
<td>97</td>
<td>£70,125</td>
<td>£48,464</td>
</tr>
<tr>
<td>Cost of Hospital Cellulitis admissions</td>
<td>97</td>
<td>£22,950</td>
<td>£2,550</td>
</tr>
<tr>
<td>Cost of IV Cellulitis home</td>
<td>97</td>
<td>£88</td>
<td>£0</td>
</tr>
<tr>
<td>Cost of dressings</td>
<td>97</td>
<td>£52,419</td>
<td>£19,667</td>
</tr>
</tbody>
</table>
## IMPACT

### Quality of Life
**EQ-5D-5L**

<table>
<thead>
<tr>
<th>Category</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility</td>
<td>↑ 44%</td>
</tr>
<tr>
<td>Self Care</td>
<td>↑ 40%</td>
</tr>
<tr>
<td>Usual activities</td>
<td>↑ 30%</td>
</tr>
<tr>
<td>Pain and Discomfort</td>
<td>↓ 48%</td>
</tr>
<tr>
<td>Anxiety and depression</td>
<td>↓ 29%</td>
</tr>
</tbody>
</table>

### Health Economics

<table>
<thead>
<tr>
<th>Category</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellulitis admissions</td>
<td>89% reduction</td>
</tr>
<tr>
<td>District Nurse visits</td>
<td>54% reduction</td>
</tr>
<tr>
<td>Time back to Care</td>
<td></td>
</tr>
<tr>
<td>Dressing Costs</td>
<td>63% reduction</td>
</tr>
</tbody>
</table>
The Chronic Oedema
‘Wet Leg’ (Lymphorrhoea) Pathway

May 2017

Developed by
Melanie Thomas, MBE, FCSP, National Clinical Lead for Lymphoedema in Wales
Karen Morgan, RGN, BSc, FOCED, NMP, National Lymphoedema Research and Education Lead in Wales
A ‘WET LEG’ PATHWAY?

• The annual costs of leg ulcer management is estimated at least £200 million in the UK.

• Care is reactive not proactive.

• Waiting lists for TVN/ Doppler

• Chronic oedema patients also suffer repeated cellulitis episodes and account for 2-3% of all hospital admissions.

• It is vital that we implement prompt management to reduce escalating costs


HOW DO WE INFLUENCE CHANGE?

• Education
• Rationale
• Missing link
• Evidenced Based Guidelines to support change
• Need a Chronic Oedema “Wet Leg” Pathway
• Literature review – documents, guidelines and protocols.
Chronic Oedema “Wet Leg” Pathway

Does the limb have clinical signs of infection/cellulitis?
- Red/spreading erythema
- Warm to touch
- Painful
- Patient systemically unwell/flu like symptoms or malaise?

Yes

Refer to GP for Cellulitis management following the All Wales Antimicrobial Guidance. Lymphoedema is on page 23

Ensure the legs are washed effectively with a bowl of water, washing emollient, dried and moisturised as per local formulation

To promote comfort, manage leaking and provide support
LEVEL ONE SUPPORT BANDAGING:
- Apply an absorbent dressing from local formulation
- One layer of blue/yellow line tubular stockinette
- Minimum of 3 rolls of wool padding
- One layer of blue/yellow line tubular stockinette
This support can remain in place for up to 48 hours unless leakage or slippage is evident
A DOPPLER IS NOT REQUIRED

No

Refer to local lymphoedema service - contact lymphoedema network, wales@wales.nhs.uk for information

Has patient got wet eczema? Yes - Ensure you follow local guidance on topical steroid management
Has the patients got a wound? Yes - Follow local guidance for referral to TVN

Ensure the legs are washed effectively with a bowl of water, washing emollient, dried and moisturised as per local formulation

To promote comfort, manage leaking and provide support
LEVEL ONE SUPPORT BANDAGING:
- Apply an absorbent dressing from local formulation
- One layer of blue/yellow line tubular stockinette
- Minimum of 3 rolls of wool padding
- One layer of blue/yellow line tubular stockinette
A DOPPLER IS NOT REQUIRED
LEVEL TWO SUPPORT BANDAGING:
If there is no history of arterial disease or any arterial symptoms as per holistic assessment it is considered safe to apply 14-17mmhg pressure.
A DOPPLER IS NOT REQUIRED
- Apply an absorbent dressing from local formulation
- One layer of blue/yellow line tubular stockinette
- Minimum of 3 rolls of wool padding
- Apply Short Stretch Bandage (elastis 10cm width) in a spiral application from the base of the toes up the leg with a 50% overlap & stretch up to the knee. Apply toe bandages if toes are swollen.
LEVEL THREE COMPRESSION BANDAGING:
Collaboration with local lymphoedema service or TVN prior to commencement of compression which includes two layers of Short Stretch Bandage (10cm width) at full stretch.

Unmanaged lymphoedema can cause skin maceration, increase the risk of infection and development of chronic wounds. Legs will continue to leak if not supported
**CHRONIC OEDEMA “WET LEG” PATHWAY**

<table>
<thead>
<tr>
<th>Level One Support Bandaging</th>
<th>Level Two Support Bandaging</th>
<th>Level Three Support Bandaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Layer Stockinette</td>
<td>One Layer Stockinette</td>
<td>One Layer Stockinette</td>
</tr>
<tr>
<td>3 rolls Padding</td>
<td>3 rolls Padding</td>
<td>3 rolls Padding</td>
</tr>
<tr>
<td>One layer Stockinette</td>
<td>One layer short stretch inelastic bandage</td>
<td>Two layer short stretch inelastic bandage</td>
</tr>
</tbody>
</table>
# Chronic Oedema ‘Wet Leg’ (Lymphorrhoea) Care Plan

<table>
<thead>
<tr>
<th>Level 1 Support Bandaging</th>
<th>Goal</th>
<th>Instructions</th>
<th>Photographs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stop leaking</td>
<td>Wash leg in emollient/ointment/lotion and apply moisturising cream</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Apply wound dressings as per formulary</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide comfort and support</td>
<td>One layer of blue/yellow line tubular stockinette</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduce oedema</td>
<td>Three rolls of wool padding</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A Doppler is not required</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level 2 Support Bandaging</th>
<th>Goal</th>
<th>Instructions</th>
<th>Photographs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stop leaking</td>
<td>As above then</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Apply Short Stretch Bandage inelastic (10cm width) in a spiral application</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>from the base of the toes up the leg with a 50% overlap and stretch up to</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>the knee</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide comfort and support</td>
<td>One layer of blue/yellow line tubular stockinette</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduce oedema</td>
<td>Apply toe bandages if toes are swollen. See document 'Lymphoedema/Chronic Oedema Toe Bandaging Care Plan'. Or consider using toe caps</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level 3 Compression</th>
<th>Goal</th>
<th>Instructions</th>
<th>Photographs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stop leaking</td>
<td>As above then</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Apply second layer of Short Stretch Bandage inelastic (10cm width) at full</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>stretch in an opposite spiral application from the base of the toes up the</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>leg with a 50% overlap up to the knee.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Apply toe bandages if toes are swollen. See document 'Lymphoedema/Chronic Oedema Toe Bandaging Care Plan'. Or consider using toe caps</td>
<td></td>
</tr>
</tbody>
</table>

*Refer to local Lymphoedema Service for ongoing advice and support*
Community Nursing services have to respond to the increasing demand and capacity gap within their services. The Kings Fund (2016) suggest having a greater skill mix within teams and delegating some tasks to healthcare support workers, has the potential to enable senior staff to deliver care for patients with advanced or complex needs.
DISSEMINATION

Chronic Oedema “Wet Leg” Pathway – National Rollout

Up Scale across Wales- 2 business cases submitted for Health Boards- ABM and AB

Creation of Wound / chronic oedema joint posts

Publications- JWC/ BJCN/ BJN and IJPCN

Support to take forward......
THANKS TO:

• Welsh Government Health Technology Fund supporting the project

• Karen.morgan6@wales.nhs.uk