Chronic pain after cancer treatment

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Pain Management
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Why is this an issue? Facts and figures re: cancer survivors
Facts and figures

- UK: 2 million people live with or have had cancer
- Number is rising by 3% each year

- Many cancers have increased 5 year survival rates (prostate, breast, colon and rectal cancers)

- Improved treatment regimens mean patients may live with stable disease for longer

- Cancer is now often considered to be a chronic disease
Pain in the older person

There has been a 24% increase in the number of people age 50 and over in the UK (19.8 million people)

This figure is projected to increase by a further 37% by 2031 (approximately 27 million people)

Incidence of pain in older age varies from 33-83% (Allcock et al 2002, Harstall 2003)
Older Adults - potential causes of pain

- May experience pain as a result of multiple pathologies from a number of sources -
  - musculoskeletal disorders,
  - pressure ulcers,
  - phantom pain,
  - heart or lung disease and
  - Cancer
- Endocrine (e.g., diabetes-induced neuropathy)
• Persistent pain has a significant impact on the QOL experienced by older adults

• Persistent pain, functional limitations, fatigue, sleep problems, depressed mood have a significant relationship with lower scores for health related QOL measures

• (Ref: Jakobsson et al 2003)
Cancer in Older Age

• 60% of all cancer diagnoses are in people over 65 years of age (Roth 2008)

• 51% of these diagnoses are in people over 70 years of age (DOH 2007)

• “Oncology is geriatric oncology, to a large extent” (Langer 2008 p.81)
Pain after cancer treatment
• Pain that persists after completion of treatment and beyond the expected time of healing can be viewed as a chronic pain syndrome.

• Chronic pain syndromes can occur within several months of completing treatment or long after treatment has finished.
33% of patients reported pain following/after curative treatment

59% patients reported pain undergoing/receiving treatment (either curative or palliative intent)

64% patients having advanced, metastatic or terminal cancer reported pain

53% patients at all disease stages reported pain
• Of the patients who reported pain, more than one third graded their pain as moderate or severe.

• A report on the treatment of cancer pain in 2008 reported that 43% of patients with cancer pain were undertreated.
Possible causes of chronic pain in cancer survivors.

• Tissue damage from cancer treatment such as surgery, radiotherapy, chemotherapy or interventional procedures
• Stable cancer disease causing residual tissue damage
• Disease recurrence
• New pain unrelated to cancer for example arthritis, osteoporosis or mechanical back pain
• Hormone therapy
Cancer related causes of chronic pain

<table>
<thead>
<tr>
<th>Bone pain syndromes</th>
<th>Primary bone tumours, bone metastases, corticosteroid-induced osteonecrosis, spinal cord compression from vertebral metastases.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visceral pain syndromes</td>
<td>Pain syndromes associated with specific cancers, such as pancreatic, ovarian, colorectal, mesothelioma; hepatic distension syndrome; chronic intestinal obstruction; and ureteric obstruction.</td>
</tr>
<tr>
<td>Neuropathic pain syndromes</td>
<td>Tumour infiltration of a peripheral nerve; painful peripheral neuropathy, nerve plexus infiltration (cervical plexus, brachial plexus, lumbar plexus); tumour infiltration of the meninges.</td>
</tr>
</tbody>
</table>
## Treatment related pain syndromes

<table>
<thead>
<tr>
<th>Treatment-related pain syndromes</th>
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</thead>
<tbody>
<tr>
<td>Post-chemotherapy: chemotherapy-induced peripheral neuropathy, avascular necrosis of femoral or humeral head; plexopathy associated with intra-arterial infusion; hormone treatment related pain such as gynaecomastia with prostate treatment, exacerbation of joint pain with prostate and breast cancer treatments.</td>
</tr>
<tr>
<td>Post-surgical pain syndromes occur more commonly after mastectomy, thoracotomy, amputation and pelvic surgery.</td>
</tr>
<tr>
<td>Post-radiotherapy: radiotherapy-induced peripheral nerve tumour; brachial and lumbosacral plexopathies; radiation myelopathy; chronic radiation enteritis and proctitis; and osteoradionecrosis.</td>
</tr>
</tbody>
</table>
Considerations for the development of chronic pain after radiotherapy

- Type of tissue irradiated
- Volume of tissue irradiated
- Dose/fraction scheme used
- Baseline function of the organ at risk

(Khoo 2003)
• Chronic effects can occur 6 months and 2 years after treatment has been completed.

• Decrease in blood supply to the tissue irradiated can lead to:
  – Neural damage
  – Fibrosis
  – Stenosis
  – Necrosis
  – Development of secondary malignancies
Examples of post radiotherapy pain syndromes

- Pelvic RT:
  - ↑ risk in lifetime hip fracture rate (women treated for gynaecological/ urology ca)-17% in control and 27% in radiotherapy group
  - Radiation induced dysuria (severe transient pain in men Tx for bladder/prostate ca)
  - Spasm of the muscles lining the bowel causing pain on defecation, chronic constipation, anal stricture or anal fissures

- Breast RT: Brachial plexopathy (1-5%)

- Bone- Osteitis, pathological fracture, osteoradionecrosis and radiotherapy induced bone cancer
Post-chemotherapy pain syndromes.

• Chemotherapy induced peripheral neuropathy (CIPN)

  • Chemotherapeutic drugs associated with CIPN include platinum compounds, taxanes, vinca alkaloids, thalidomide, bortezomib

  • Pre-existing nerve damage such as neuropathy associated with diabetes, alcoholism, inherited neuropathy may increase the severity of CIPN
• Severe CIPN incidence has been estimated as 3-7% in people treated with single chemotherapeutic agent and upwards of 38% of those treated with multiple agents

• Degree of nerve damage is dependent on the type of chemo, the duration of administration and the cumulative dose received

• Severe CIPN can result in dose reductions in chemotherapy, treatment delays or discontinuation of treatment
• Unpleasant sensory, motor and autonomic symptoms are caused by CIPN. The longer he nerve the more vulnerable to injury.

• Symptoms include changes in sensation, increased sensitivity, pain, numbness, muscle weakness and functional impairment

• CIPN will often resolve over time, however in a small number of patients it will persist as chronic pain
• Experience of CIPN described as ‘background noise’.
• Not central focus of the cancer experience but described as annoying, distracting, unpleasant.
• Could interfere with valued activities, social and work roles.
• Multiple symptoms such as pain, fatigue and sleep disturbance contributed to low mood and was a source of symptoms distress

Ref: Bakitas (2007)
Classification Criteria for Chronic Post-Surgical Pain

• The pain developed after a surgical procedure
• The pain is of at least 2 months duration
• Other causes for the pain have been excluded (e.g. continuing malignancy or chronic infection)
• The possibility that the pain is continuing from a pre-existing problem must be explored and exclusion attempted

• (Macrae 2001)
Risk factors for chronic post surgical pain

- Preoperative pain
- Repeated surgery
- Surgical approach with risk of nerve damage
- Acute, severe postoperative pain
- Radiotherapy
- Chemotherapy
- Psychological and depression symptoms

(ref: Perkins and Kehlet 2000)
## Examples of post surgical pain

<table>
<thead>
<tr>
<th>Type of surgery</th>
<th>Type of pain reported</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast surgery</td>
<td>Chest wall, breast or scar pain</td>
<td>11-57%</td>
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<tr>
<td></td>
<td>Phantom breast pain</td>
<td>13-24%</td>
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<td></td>
<td>Arm and shoulder pain</td>
<td>12-51%</td>
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<tr>
<td>Post thorocotomy</td>
<td>Chest wall pain (spontaneous or evoked)</td>
<td>29-67% for posterolateral</td>
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<tr>
<td></td>
<td>Hypersensitivity</td>
<td>22-63% for video assisted</td>
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<tr>
<td>After limb amputation</td>
<td>Phantom limb pain</td>
<td>Varies but 60-80%</td>
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<tr>
<td></td>
<td>Stump pain</td>
<td></td>
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<tr>
<td></td>
<td>Phantom limb sensation</td>
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</tr>
<tr>
<td>Head and neck surgery</td>
<td>Neck pain</td>
<td>33%</td>
</tr>
<tr>
<td></td>
<td>Shoulder pain</td>
<td>37%</td>
</tr>
<tr>
<td></td>
<td>Myofacial pain</td>
<td>46%</td>
</tr>
<tr>
<td>Colorectal surgery</td>
<td>Abdominal pain/ rectal pain</td>
<td>32% and 18%</td>
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</tbody>
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Factors relating to under-reporting of cancer related pain

**Professional issues:**
Lack of knowledge on diagnosing and treating chronic cancer pain
Limited clinical experience on caring for this population
Failure to follow up as well as refer to pain specialist

**Patient related**
Reluctance to report symptoms for fear of disease recurrence; fear of complaining after cancer treatment; don’t report when not asked
Concerns over use of long-term medication
May believe pain a consequence of treatment and cannot be relieved

**Lack of Research**
Insufficient studies highlighting the epidemiology
Non-standardisation of diagnostic and clinical assessment measures
Lack of research on treatment outcomes
Impact of chronic pain syndromes

• A synergy between multiple symptoms such as pain, fatigue and sleep disturbance was a prominent source of symptom distress and negative mood, leading to loss of function and quality of life.

Ref: Bakitas (2007)
Implications of persistent pain

• Anxiety that disease has recurred or become active again
• Chronic persistent pain syndromes affect physical, psychological and social functioning
  – Daily physical activity
  – Mood
  – Sexual relationships
  – Social relationships
  – Sleep patterns
  – Cognition (thought processes)
  – Beliefs
• Patients may be unable to return to work
PROMS data (DoH 2012)

- 28% reported slight pain or discomfort
- 13% reported moderate pain or discomfort
- 5% had severe pain or discomfort
- 1% had extreme pain or discomfort
How do we identify these patients??
Assessment and Management

• How do we screen or assess patients for long term outcomes of cancer and cancer treatment?

• How do we manage patients with persistent pain?
The London Cancer Alliance West and South

London Holistic Needs Assessment

For each item below, please tick yes or no if they have been a concern for you during the last week, including today. Please also tick discuss if you wish to speak about it with your health professional.
Choose not to complete the assessment today by ticking this box  □

Date: [ ]
Name: [ ]
Hospital/NHS number: [ ]

Please tick the number that best describes the overall level of distress you have been feeling during the last week, including today:

10 Extreme distress
9
8
7
6
5
4
3
2
1
0 No distress

Practical concerns
Caring responsibilities
Housing or finances
Transport or parking
Work or education
Information needs
Difficulty making plans
Grocery shopping
Preparing food
Bathing or dressing
Laundry or housework

Family concerns
Relationship with children
Relationship with partner
Relationship with others
Emotional concerns
Loneliness or isolation
Sadness or depression
Worry, fear or anxiety
Anger, frustration or guilt
Memory or concentration
Hopelessness
Sexual concerns

Spiritual concerns
Regret about the past
Loss of faith or other spiritual concern
Loss of meaning or purpose in life

Physical concerns
High temperature
Wound care
Passing urine
Constipation or diarrhoea
Indigestion
Nausea and/or vomiting
Cough
Changes in weight
Eating or appetite
Changes in taste
Sore or dry mouth
Feeling swollen
Breathlessness
Pain
Dry, itchy or sore skin
Tingling in hands or feet
Hot flushes
Moving around or walking
Fatigue
Sleep problems
Communication
Personal appearance
Other medical condition

For health professional use
Date of diagnosis:
Diagnosis:
Pathway point:

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The London Cancer Alliance West and South

## Care Plan

During my holistic needs assessment, these issues were identified and discussed:

<table>
<thead>
<tr>
<th>Number</th>
<th>Issue</th>
<th>Summary of discussion</th>
<th>Actions required/by (name and date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td>Breathlessness</td>
<td>Possible causes identified</td>
<td>Referral to anxiety management programme; CNS to complete by 24th Dec</td>
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<td>1</td>
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Other actions/outcomes e.g. additional information given, health promotion, smoking cessation, ‘My actions’:

Signed [patient]: ___________________________ Date: ________________
Signed [healthcare professional]: _______________ Date: ________________

For health professional use
Date of diagnosis: ___________________________ Diagnosis: ___________________________
Pathway point: ___________________________
Pain ‘Screen and Treat’ Feasibility Survey

• Please rate your pain by circling one number that best describes your pain at its worst in the last 24 hours:

• NONE 0 1 2 3 4 5 6 7 8 9 10 SEVERE PAIN

• Please can you return this form to the nurse once completed
Pain screen and treat feasibility survey

- - - STAFF USE ONLY - - -

Outcome - Please indicate.

1. Patient would like to see a Pain Team Specialist TODAY
   Please contact xxx

2. Patient would like a Pain Clinic outpatient appointment
   Please book patient for clinic as a ‘new patient’ on a convenient date

3. Patient wants to continue with pain management from: Oncologist/GPMacmillan/District Nurse or Other
   (please specify........)

4. Other outcome (please specify)

Please return form to - Project Coordinator or return to outpatient reception
Treatment principles

• Use a biopsychosocial model to address all aspects of patients pain experience

• Treatment may combine elements of the following:
  – Analgesia
  – Interventional analgesia (nerve blocks)
  – Anti-cancer therapy when appropriate
  – Non-pharmacological approaches
  – Psychological interventions
  – Development of self management strategies
  – Social support
Conclusion
• Self management strategies are an essential component of chronic disease management.

• There is already a good body of evidence for chronic non-malignant pain—how can we evolve or integrate these principles into chronic cancer pain management?
• Client/patient social, physical and psychological wellbeing should be at the centre of care.
Contact details

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