euro pep

BRENG BEWIJS IN DE PRAKTIJK

ADAPTED FOR EUROPEAN NURSES BY EONS

Pijn

Improving symptom management in cancer care through evidence based practice

ONS® Oncology Nursing Society

European Oncology Nursing Society

European Partnership Action Against Cancer

Welkom bij de Euro-PEPs

De European Oncology Nursing Society presenteert met genoegen de eerste serie "Putting Evidence into Practice"-richtlijnen ter verbetering van de zorg voor kankerpatiënten in Europa.

Verbetering van de patiëntenzorg is een doorlopend proces. Er bestaat een kloof tussen de beschikbare kennis en wat daarvan ook daadwerkelijk in de praktijk wordt gebracht. Deze kenniskloof manifesteert zich in slechte of onjuiste zorg waar kankerpatiënten de dupe van worden. Onderzoeksresultaten laten zien dat er verschillende redenen zijn waarom verpleegkundigen die meest recente kennis niet gebruiken.
Allereerst is onderzoek vaak moeilijk te begrijpen en is de hoeveelheid gepubliceerd werk overweldigend. Ten tweede wordt vaak gedacht dat men over onvoldoende expertise beschikt om die kennis te kunnen interpreteren. Al zouden we maar een fractie van wat we weten over omgaan met symptomen in de praktijk brengen, dan zouden de ervaringen van de patiënten sterk verbeterd worden.
Deze Euro PEP is ontwikkeld in samenwerking met de Oncology Nursing Society en wordt gefinancierd door de Europese Commissie als onderdeel van de Europese Action Against Cancer. Velen hebben, zowel in Europa als in de VS, bijgedragen aan de ontwikkeling en de deskundige evaluatie van deze documenten. EONS dankt hen voor hun toewijding en hun grote inspanningen.
Deze documentatie voorziet u van een beknopte samenvatting van de vergaarde kennis, een synthese van patiëntenbeoordelingen, een samenvatting van de op deze kennis gebaseerde ingrepen en meningen van experts om u bij te staan bij het interpreteren van de Europese normen. Ook vindt u in de documentatie de nodige referenties en bronmateriaal. Misschien wilt u deze richtlijnen aanpassen voor uw eigen werkomgeving. Hierbij is het dan goed te weten dat de PEPs u de zekerheid geven dat deze richtlijnen in 2012 grondig zijn geëvalueerd in een rigoureus proces door vooraanstaande deskundigen en artsen.
Namens het evaluatieteam kunnen we met vertrouwen stellen dat deze informatie, samen met uw inspanningen en toewijding om uw praktijk te verbeteren, eraan zal bijdragen om op basis van wetenschappelijke inzichten betere resultaten te behalen voor de patiënt.

Wij wensen u veel succes toe!

Sara Faithfull, voorzitter EPAAC-project
Anita Marguiles, PEP-voorzitter

INHOUD

This publication arises from the European Partnership for Action Against Cancer Joint Action, which has received funding from the European Union, in the framework of the Health Programme.

Introductie tot de Onderdelen

Kort overzicht

Een kort overzicht (Quick View) toont een uiterst beknopte samenvatting van de ONS PEP-bronnen, waarvan u in de cursusdocumentatie een volledig uitgeschreven versie vindt.
De ONS PEP-informatie over dit onderwerp en de beschrijving van de verschillende kenniscategorieën is beschikbaar via http://www.ons.org.

Meningen van deskundigen

Meningen van experts (Expert Opinion): ingrepen met een laag risico die (1) consistent zijn met degelijke klinische praktijk, (2) aangeraden worden door een expert in een collegiaal getoetste publicatie (tijdschrift of hoofdstuk in een boek) en (3) waarover een beperkte hoeveelheid kennis voorhanden is. Een expert is een persoon met door collega's getoetste publicaties in een tijdschrift op het betreffende vakgebied.

Beoordelingsinstrumenten

In het algemeen kunnen met geen enkele methode alle elementen van een bepaald symptoom gemeten worden. De keuze van de methode hangt dus zowel af van het doel van de beoordeling als van de mate van belasting voor arts en patiënt. De meeste symptomen zijn subjectieve ervaringen en dus is zelfrapportage de betrouwbaarste meetmethode.

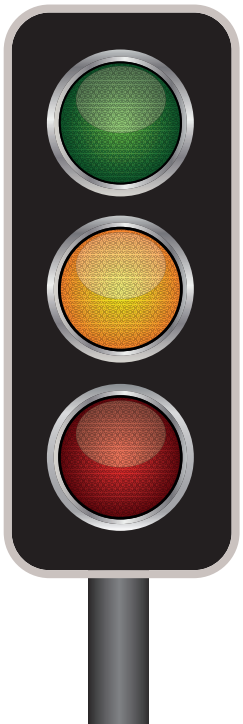
Definities

In de documentatie is het misschien nodig de verschillende termen nader uit te leggen zodat het een beter begrip ervan kan leiden tot verbetering van de resultaten van de gekozen ingrepen. De volgende definities zijn zo opgesteld dat ze aansluiten bij de inhoud van de verschillende PEP-documenten.

Hoe gebruik je deze handleiding

- Bekijk het Euro - PEP materiaal en ga na of het van toepassing kan zijn in uw eigen praktijk en op de situatie van uw patiënten.
- Evalueer voor iedere patiënt het de relevante klinische proble(e)m(en) grondig. Voorbeelden van evaluatie-instrumenten zijn te vinden in de samenvattingen van op feitelijke kennis gebaseerde metingen die te vinden zijn in de hoofdstukken over de verschillende PEP-onderwerpen.
- Identificeer ingrepen waarover de meeste kennis bestaat dat ze doelmatig en doeltreffend zijn en neem die op in het zorgplan. Houd hierbij rekening met de voorkeuren en levenswijze van de patiënt alsmede met de kosten en de beschikbaarheid van de betreffende ingrepen.
- Beoordeel de respons van de patiënt op de ingrepen en leg dit vast. Overweeg, als dat nodig mocht zijn, andere ingrepen waarover veel feitelijke kennis bestaat.
- Leer patiënten dat de zorg die zij ontvangen, gegeven wordt op basis van de best beschikbare kennis van dat moment.
- De Weight of Evidence Table (het verkeerslicht) geeft aan hoe de kennis gewogen is.

Aangepast voor Euro PEP Resources uit www.ons.org/Research/PEP



Groen = VOORUIT!

Het bewijs ondersteunt de overweging om deze interventies in de praktijk te brengen

Geel = VOORZICHTIG!

Er is onvoldoende bewijs om te kunnen zeggen dat deze interventies effectief zijn of niet.

Rood = STOP!

Het bewijs duidt erop dat deze interventies ineffectief of mogelijk schadelijk zijn.

Aanbevolen voor gebruik

Interventies waarvan de effectiviteit is aangetoond door overtuigend bewijs uit zorgvuldig opgezette onderzoeken, door meta-analyses of systematische reviews en waarvan verwacht wordt dat de eventuele nadelige effecten niet opwegen tegen de voordelen ervan.

Waarschijnlijk effectief

Interventies waarvan de effectiviteit is aangetoond met een enkel grondig uitgevoerd, gecontroleerd onderzoek, door consistent ondersteunend bewijs uit goed opgezette, gecontroleerde onderzoeken met kleine steekproeven of door wetenschappelijk onderbouwde richtlijnen die gesteund worden door meningen van experts.

Voordelen afgewogen tegen nadelige effecten

Interventies waarvoor en patiënten een afweging moeten maken van voor- en nadelen overeenkomstig hun privéomstandigheden en prioriteiten.

Effectiviteit niet vastgesteld

Interventies waarvoor momenteel onvoldoende of tegenstrijdige gegevens of gegevens van onvoldoende kwaliteit bestaan zonder dat er duidelijke aanwijzingen zijn voor nadelige effecten.

Effectiviteit onwaarschijnlijk

Interventies waarvan ontbreken van effectiviteit is aangetoond door negatief bewijs uit een enkel grondig uitgevoerd, gecontroleerd onderzoek, door consistent ondersteunend negatief bewijs uit goed opgezette, gecontroleerde onderzoeken met kleine steekproeven of door wetenschappelijk onderbouwde richtlijnen die gesteund worden door meningen van experts.

Niet aanbevolen voor gebruik

Interventies waarvoor het ontbreken van effectiviteit of de schadelijkheid is aangetoond door overtuigend bewijs uit zorgvuldig opgezette onderzoeken, meta-analyses of systematische reviews of interventies waarvan de kosten, de belasting of de schadelijkheid waarmee de interventie gepaard gaat groter zijn dan het verwachte voordeel ervan.

Pijn
Kort Overzicht

Definitie:

De etiologie van pijn is geclassificeerd als nociceptief, neuropathisch of beide. Kanker-gerelateerde pijn treedt zelden op in afzondering van andere symptomen. Personen met kanker-gerelateerde pijn kunnen vermoeidheid, slaapstoornissen, depressiviteit en verlies van eetlust ervaren (Gaston-Johannson et al, 1999; Miaskowski & Lee, 1999; Fitzgibbon & Loeser, 2010). Pijn, vermoeidheid en depressie zijn geïdentificeerd als een cluster van symptomen bij kankerpatiënten. Om in aanmerking te komen voor een cluster moeten de symptomen met elkaar samenhangen en gelijktijdig optreden. Deze symptoomcluster kan gerelateerd zijn via een gemeenschappelijke onderliggende pathofysiologisch mechanisme zoals een systemische ontsteking (Fallon et al, 2010).

Kanker-gerelateerde pijn is uiterst subjectief en uniek voor ieder individu die het ervaart. Het is een multidimensionaal fenomeen bestaande uit zes dimensies - fysiologisch, sensorisch, affectief, cognitief, gedragsmatig en sociaal-cultureel (McGuire, 1995). Deze dimensies zijn bruikbaar als een kader voor beoordeling van, het omgaan met en onderzoek van kanker-gerelateerde pijn. Een multimodale benadering van pijn is heel belangrijk om optimale patiëntresultaten te behalen.

Incidentie:

De prevalentie van kanker-gerelateerde pijn wordt geschat op 44% - 73% bij patiënten die voor kanker behandeld worden en 58% -69% bij patiënten met de ziekte in een gevorderd stadium (van den Beuken-van Everdingen et al., 2007). Patiënten met ongeacht welke soort kanker ervaren pijn. Pijn komt het meest voor bij patiënten met hoofd- halskanker. Doorbraakpijn komt regelmatig voor bij kankerpatiënten en blijkt te variëren van 19%-95% (Mercadante et al., 2002; Zeppetella & Ribeiro, 2003). Deze sterk uiteenlopende prevalentie hangt samen met de verschillende definities voor doorbraakpijn die worden gebruikt door onderzoekers op het gebied van kankerpijn.

QUICK VIEW

Aanbevolen voor gebruik

ACUTE PIJN

- Postoperatieve epidurale anesthesie

ONBEHANDELBARE EN HARDNEKKIGE PIJN

- Intraspinale, epidurale en intrathecale pijnbestrijding

DOORBRAAKPIJN

- Directe afgifte van opioïden van proportionele doses tot basisdosis
- Orale en transmucosale opioïden.
- Nasale Fentanylspray (nasale Fentanylspray is niet in Zwitserland geregistreerd)

CHRONISCHE PIJN

- Acetaminofen (Acetaminofen is in Duitsland bekend onder de naam paracetamol)
- Niet-steroïdale anti-inflammatoire geneesmiddelen (NSAIG NSAID)
- Opioïden
- Langdurige en continue afgifte van opioïde-formuleringen
- Transdermale opioïden
- Methadon
- Tramadol
- Oxycodone/Naloxone
- Plexus coeliacus blokkade
- Botmodificerende agenten
- Neuropathisch-specifieke interventies
- Anesthetisch infuus
- Gabapentine-pijnstiller combinatie
- Anti-epileptica
- Psycho-educatieve interventies

Waarschijnlijk effectief

ACUTE PIJN

- Constante afgifte Tramadol
- Lokaal anesthetisch infuus
- Perioperatieve Gabapentine als pijnstillend geneesmiddel
- Hypnose

CHRONISCHE PIJN

- Vroege toediening van opioïden
- Orale cannabisspray (niet beschikbaar in vele EU-landen)
- Muziek en muziektherapie

Voordelen afgewogen tegen eventuele nadelige effecten

Op dit moment geen aanbevelingen

Effectiviteit niet vastgesteld

ACUTE PIJN

- Lidocaïnepleister voor incisiepijn
- Perioperatief medicijnprogramma
- Paracetamol, Dexamethason, Dextromethorfan, Celecoxib & Gabapentine
- Dexamethason
- Morfine, Acetaminofen, Ketoprofeen en Naproxen
- Pregabaline
- Voetreflexmassage
- Acupunctuur

ONBEHANDELBARE EN HARDNEKKIGE PIJN

- Intraveneuze Lidocaïne
- Opioïdenrotatie
- DMSO (niet beschikbaar of gebruikt in alle Europese landen)
- Ketamine (niet altijd beschikbaar in alle Europese landen)

DOORBRAAKPIJN

- Intranasale Sufentanil (niet beschikbaar in de meeste Europese landen)

QUICK VIEW

CHRONISCHE PIJN

- Routinematig gebruik van acetaminofen (Paracetamol)
- Antidepressiva
- Institutionele initiatieven
- Transcutane elektrische zenuwstimulatie (TENS)
- Massage
- Progressieve spierontspanning (PSO) en geleide fantasie
- Therapeutische aanraking
- Oefeningen
- Kruidenformules
- Acupunctuur
- Het uiten van emoties

Effectiviteit onwaarschijnlijk

CHRONISCHE PIJN

- Calcitonine

Niet aanbevolen voor gebruik

Tot op heden geen producten

Mening van Deskundigen

Interventies met weinig risico die

- **consistent zijn met goede klinische praktijken,**
- **gesuggereerd worden door een expert in een peer-reviewed publicatie (tijdschrift of hoofdstuk in een boek) en**
- **waarvoor een beperkte hoeveelheid bewijs bestaat.**

Een expert is een persoon die artikelen geschreven heeft die verschenen zijn in een peer-reviewed tijdschrift in het betreffende kennisgebied.

Van de hieronder aangegeven middelen is op basis van het advies van deskundigen eerder aangeduid dat deze niet voor kanker-gerelateerde pijnbestrijding gebruikt zouden moeten worden (Aiello-Laws & Am eringer, 2009; Miaskowski et al. , 2005).

- Meperidine (Pethidine)
- Propoxyfeen (niet beschikbaar in Europa)
- Intramusculaire toediening
- Fenothiazines
- Carbamazepine

EXPERT OPINION

Beoordelingsinstrumenten

Klinische meetinstrumenten voor pijn

Naam instrument	Aantal onderdelen	Domeinen	Klinisch nut	Waar te verkrijgen
Korte pijninventaris (verkorte versie)	9	Pijnervaringen, locatie, intensiteit, pijnstillers, pijnverlichting en invloed op dagelijkse activiteiten	Multidimensionaal Eenvoudig voor patiënten om in te vullen	http://www.mdanderson.org/education-andresearch/departments-programs-and-labs/departments
McGill Pijnenquête (verkorte versie)	18	Index pijnwaardering, zintuiglijk, affectief, actuele pijn, intensiteit, locatie	Multidimensionaal Neemt 2-5 minuten in beslag om in te vullen	http://www.mapi-trust.org/services/questionnaire licensing/catalogue questionnaires/137-mpq-sf
Numerieke beoordelings-schaal	1	Intensiteit Kan ook gebruikt worden om pijnverlichting, frequentie, duur, onplezierigheid of ongemak te beoordelen	Afname van 2 punten of 33% van de score is van klinisch belang. Referentie van Farrarr et al 4	http://pain consortium.nih.gov/pain_scales/NumericRating Scale.pdf
Visueel analoge schaal	1	Intensiteit (kan ook gebruikt worden om pijnverlichting, frequentie, duur, onplezierigheid of ongemak te beoordelen)	Mogelijk moeilijker om te begrijpen en in te vullen dan andere pijnbeoordelingen die uit een enkel onderdeel bestaan. (Mening van deskundigen)	www.cebp.nl/vault_public/filesystem/?ID=1478

From: Putting Evidence into Practice Oncology Nursing Society Ed. L. Eaton, J. Tipton, 2010

Tabel 14-1. Beoordelingsgids voor pijn

Beoordeling	Ja	Nee
Lichamelijke symptomen		
Aanvang, locatie(s), kwaliteit, intensiteit en duur van pijn		
Verzwarende en verlichtende factoren		
Eerdere pijnbehandeling		
Niet-verbaal: kronkelen, kreunen, spasmen, grimassen, rusteloosheid;		
Psychosociale symptomen		
Effect van pijn op andere aspecten van het leven van de persoon		
Belangrijke eerdere beleving van pijn en invloed daarvan op patiënt		
Betekenis van pijn voor patiënt en familie		
Typische reacties om stress of pijn het hoofd te kunnen bieden		
Kennis hoe met pijn om te gaan		
Met pijn samenhangende stemmingswisselingen (zoals depressiviteit, nervositeit)		
Neurologische symptomen		
Relevant neurologisch onderzoek uitvoeren in geval van hoofd- en nekpijn of nek- en rugpijn		
Risicofactoren en bijdragende factoren		
Tumorlocatie (zoals botkanker, laesies in het centrale zenuwstelsel)		
Neuropathie, secundaire tot primaire of metastatische tumor, abdominale tumoren gerelateerd aan tumoren in de ingewanden, verstopping en/of ascites		
Kankerbehandeling		
Opmerking: Op basis van informatie uit Aiello-Laws, 2008; D'Arcy 2007; Paice, 2004.		

Figuur 14-1. Korte pijninventaris (verkorte versie)

STUDY ID #:_____ DO NOT WRITE ABOVE THIS LINE HOSPITAL #: _____

Brief Pain Inventory (Short Form)

Date: ____/____/____ Time: _____

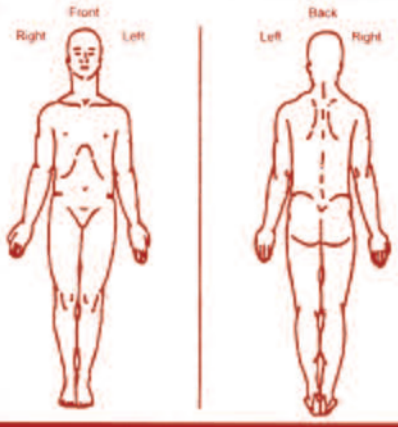
Name: _____ _____ _____

Last First Middle Initial

1. Throughout our lives, most of us have had pain from time to time (such as minor headaches, sprains, and toothaches). Have you had pain other than these every-day kinds of pain today?

1. Yes 2. No

2. On the diagram, shade in the areas where you feel pain. Put an X on the area that hurts the most.



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

0 No Pain 1 2 3 4 5 6 7 8 9 10 Pain as bad as you can imagine

4. Please rate your pain by circling the one number that best describes your pain at its least in the last 24 hours.

0 No Pain 1 2 3 4 5 6 7 8 9 10 Pain as bad as you can imagine

5. Please rate your pain by circling the one number that best describes your pain on the average.

0 No Pain 1 2 3 4 5 6 7 8 9 10 Pain as bad as you can imagine

6. Please rate your pain by circling the one number that tells how much pain you have right now.

0 No Pain 1 2 3 4 5 6 7 8 9 10 Pain as bad as you can imagine

(Continued on next page)

Figuur 14-1. Korte pijninventaris (verkorte versie)

STUDY ID #:_____ DO NOT WRITE ABOVE THIS LINE HOSPITAL #:_____

Date:___/___/____ Time:_____

Name:_____ _____ _____

Last First Middle Initial

7. What treatments or medications are you receiving for your pain?

_____

8. In the last 24 hours, how much relief have pain treatments or medications provided? Please circle the one percentage that most shows how much relief you have received.

0% No Relief 10% 20% 30% 40% 50% 60% 70% 80% 90% 100% Complete Relief

9. Circle the one number that describes how, during the past 24 hours, pain has interfered with your:

A. General Activity

0 Does not Interfere 1 2 3 4 5 6 7 8 9 10 Completely Interferes

B. Mood

0 Does not Interfere 1 2 3 4 5 6 7 8 9 10 Completely Interferes

C. Walking Ability

0 Does not Interfere 1 2 3 4 5 6 7 8 9 10 Completely Interferes

D. Normal Work (includes both work outside the home and housework)

0 Does not Interfere 1 2 3 4 5 6 7 8 9 10 Completely Interferes

E. Relations with other people

0 Does not Interfere 1 2 3 4 5 6 7 8 9 10 Completely Interferes

F. Sleep

0 Does not Interfere 1 2 3 4 5 6 7 8 9 10 Completely Interferes

G. Enjoyment of life

0 Does not Interfere 1 2 3 4 5 6 7 8 9 10 Completely Interferes

Note. Copyright 1991 by Charles S. Cleeland, PhD, Pain Research Group. Used with permission.

Figuur 14-2. Numerieke pijnintensiteitsschaal

Opmerking. Overgenomen uit Pain Management: Evidence-Based Tools and Techniques for Nursing Professionals (p.37), door Y. D'Arcy, © 2007 HCPro, Inc., 200 Hoods Lane, Marblehead, MA 01945 781/639-1872 www.hcpro.com. Gebruikt met toestemming.

Figuur 14-3. Visueel-analoge schaal

Opmerking. Overgenomen uit Pain Management: Evidence-Based Tools and Techniques for Nursing Professionals (p.37), door Y. D'Arcy, © 2007 HCPro, Inc., 200 Hoods Lane, Marblehead, MA 01945 781/639-1872 www.hcpro.com. Gebruikt met toestemming.

Pijn Lijst met Definities

Acute pijn
Pijn die plotseling begint en meestal snel minder ernstig wordt (d.w.z. dagen, uren, minuten). Wordt meestal veroorzaakt door lichamelijk letsel en verdwijnt in het algemeen als het lichamelijk letsel geneest. Gaat vaak, maar niet altijd, gepaard met objectieve fysieke tekenen van activiteit van het autonome zenuwstelsel zoals tachycardie, hypertensie, diaforese, mydriase, en bleekheid. (American Pain Society: Voorbeelden van de meest voorkomende soorten acute pijn gerelateerd aan de behandeling zijn postoperatieve pijn en orale mucositis (Miaskowski et al, 2005).

Adjuvant analgeticum / coanalgeticum
Een medicijn dat niet primair pijnstillend is maar waarvan onderzoek heeft aangetoond dat het onafhankelijke of additieve pijnstillende eigenschappen heeft (bijv. antidepressivum, anticonvulsivum). (American Pain Society, 2005)

Doorbraakpijn
Een voorbijgaande toename van pijnintensiteit ten opzichte van de achtergrondpijn, begint meestal snel, is intens en duurt in het algemeen niet langer dan ongeveer 30 minuten (Zepetella & Ribeiro, 2006) Het is een voorbijgaande verergering van de pijn die spontaan of ten gevolge van een specifieke, voorspelbare of onvoorspelbare aanleiding optreedt, ondanks een relatief stabiele en adequaat gecontroleerde achtergrondpijn (Davies et al. 2009)

Kankerpijn
Kan acuut, chronisch of intermitterend zijn en heeft vaak een definieerbare etiologie, meestal gerelateerd aan de terugkeervan de tumor of de behandeling. Chronische kankerpijn gaat zelden gepaard met reacties van het sympathieke zenuwstelsel. (American Pain Society, 2005)

Chronische pijn
Pijn die langer dan drie maanden aanhoudt (Mersky & Bogduk, 1994). Botmetastase wordt als de meest voorkomende oorzaak van kanker-gerelateerde chronische pijn beschouwd (Miaskowski 2010).

Epiduraal
Gesitueerd in het wervelkanaal, op of buiten de dura mater (het taaie membraan rond het ruggenmerg) (American Pain Society)

Equianalgesetisch
Met gelijksoortig pijnstillend effect; 10 mg parenteraal toegediend morfinesulfaat wordt meestal gebruikt voor vergelijkingen van opioïde pijnstillende middelen. (American Pain Society, 2005)

Hardnekkige of onbehandelbare pijn
Treedt op wanneer pijn niet adequaat kan worden onderdrukt ondanks agressieve maatregelen (Fitzgibbon & Loeser, 2010).

Intrathecaal
Het gebied dat zich tussen het spinnenwebvlies en het zachte hersenvlies bevindt en hersenvocht bevat. Deze subarachnoïdale ruimte wordt meestal aangeduid als de ruimte waar "lumbale puncties" worden uitgevoerd. (American Pain Society, 2005)

Neuroaxiale pijnstillers
Epidurale en spinale pijnstillers (Taber's, 2001)

Neuropathische pijn
Pijn als gevolg van beschadiging van het perifere of centrale zenuwstelsel 28 (Challapalli, Tremont-Lukats, Mc Nicol, Lau, & Carr, 2005). Pijn gekenmerkt door dysesthesie, hyperesthesie,

pijnscheuten of snijdende pijn, als gevolg van schade aan of druk op de zenuwcellen (Ross, Goller, Hardy, Riley, Broadley, A'hern & Williams, 2005), komt voort uit beschadiging van het perifere of centrale zenuwstelsel (Challapallie et al, 2005).

Nociceptieve pijn

Pijn die wordt veroorzaakt door weefselschade. Het letsel kan een snee, kneuzing, botbreuk, letsel door stoten, verbranding of iets anders zijn dat het weefsel beschadigt. Dit type pijn is meestal pijnlijk, scherp, of bonkend. De meeste soorten pijn zijn nociceptief. Pijnreceptoren voor weefselschade (nociceptoren) bevinden zich hoofdzakelijk in de huid of in de inwendige organen. (Pfizer, 2007, Fitzgibbon & Loeser, 2010).

Neuropathische pijn

Pijn als gevolg van beschadiging van het perifere of centrale zenuwstelsel (Challapallie et al, 2005).

NSAID

“non-steroidal anti-inflammatory drug” Niet-steroïdale, anti-inflammatoire geneesmiddelen. Aspirineachtige geneesmiddelen die ontstekingen (en dus pijn) als gevolg van weefselschade verminderen.
COX-2 selectieve NSAID - Een NSAID dat de COX-2 isovorm van cyclooxygenase remt, maar niet de COX-1 vorm.
Niet-selective NSAID - Een NSORM dat zowel de COX-1 als COX-2 isovormen van cyclooxygenase remt. (American Pain Society, 2005) ‘’’’

Opioïde

Een morfine-achtige medicatie met een pijnstillende werking. De term opioïde verdient de voorkeur boven de term verdovend; zij verwijst naar natuurlijke, halfsynthetische en synthetische medicijnen die pijnstillend werken doordat ze zich aan de opioïdereceptoren in het centrale zenuwstelsel binden. De term opioïde verdient ook de voorkeur boven de term opiaat omdat deze alle agonisten en antagonisten met morfineachtige activiteiten, evenals natuurlijke en synthetische opioïdpeptiden beschrijft (American Pain Society, 2005)

Opioïde agonist

Een morfineachtige stof die lichamelijke effecten produceert, waaronder pijnverlichting, sedatie, constipatie en respiratoire depressie. (American Pain Society, 2005)

Opioïde agonist-antagonist

Medicatie die als agonist op één type opioïde receptor reageert en als antagonist bij een andere receptor. (American Pain Society)

Pijn

Pijn is een onaangename sensorische en emotionele ervaring die het gevolg is van werkelijke of potentiële weefselbeschadiging of in termen van een dergelijke beschadiging wordt beschreven. (Merskey & Bogduk, 1994)

Palliatieve zorg

Biedt verlichting van pijn en van andere onplezierige symptomen zonder de onderliggende ziekte te genezen (Wereldgezondheidsorganisatie 2012). Haar doel is het verbeteren van de kwaliteit van leven van patiënten die aan een ongeneeslijke ziekte lijden en hun families. In teamverband wordt ondersteuning geboden vanaf de diagnose tot het einde van het leven. Een adequate pijnbeoordeling en -behandeling is fundamenteel voor het leveren van goede palliatieve zorg.

References

Aiello-Laws, L.B., & Ameringer, S.W. (2009). Pain. In L.H. Eaton & J.M. Tipton (Eds.), Putting evidence into practice: Improving oncology patient outcomes (pp. 215–234). Pittsburgh, PA: Oncology Nursing Society.

American Geriatrics Society. (2002). Clinical practice guidelines: The management of persistent pain in older persons. Journal of the American Geriatrics Society, 50(Suppl. 6), S205–S224.

American Pain Society. (2005). Guideline for the management of cancer pain in adults and children. Glenview, IL: Author.Apolone, G., Corli, O., Negri, E., Mangano, S., Montanari, M., Greco, M.T., … Zucco, F. (2009). Effects oftransdermal buprenorphine on patients-reported outcomes in cancer patients: Results from the Cancer Pain Outcome Research (CPOR) Study Group. Clinical Journal of Pain, 25, 671–682. doi:10.1097/ mAJP.0b013e3181a38f9d

Arai, Y.C., Matsubara, T., Shimo, K., Suetomi, K., Nishihara, M., Ushida, T., … Arakawa, M. (2010). Low-dose gabapentin as useful adjuvant to opioids for neuropathic cancer pain when combined with low-dose imipramine.Journal of Anesthesia, 24, 407–410. doi:10.1007/s00540-010-0913-6

Arcidiacono, P.G., Calori, G., Carrara, S., McNicol, E.D., & Testoni, P.A. (2011). Celiac plexus block for pancreatic cancer pain in adults. Cochrane Database of Systematic Reviews, 2011(3). doi:10.1002/14651858 CD007519.pub2

Aurilio, C., Pace, M.C., Pota, V., Sansone, P., Barbarisi, M., Grella, E., & Passavanti, M.B. (2009). Opioids ,switching with transdermal systems in chronic cancer pain. Journal of Experimental and Clinical Cancer Research, 28, 61. doi:10.1186/1756-9966-28-61

Axelsson, B., Stellborn, P., & Strom, G. (2008). Analgesic effect of paracetamol on cancer-related pain in concurrent strong opioid therapy. A prospective clinical study. Acta Oncologica, 47, 891–895. doi:10.1080/02841860701687259

Bardia, A., Barton, D.L., Prokop, L.J., Bauer, B.A., & Moynihan, T.J. (2006). Efficacy of complementary and alternative medicine therapies in relieving cancer pain: A systematic review. Journal of Clinical Oncology, 24, 5457–5464. doi:10.1200/JCO.2006.08.3725

Bennett, M.I., Bagnall, A.M., & Closs, S. (2009). How effective are patient-based educational interventions in ,the management of cancer pain? Systematic review and meta-analysis. Pain, 143, 192–199. doi:10.1016/j. pain.2009.01.016

Bennett, M.I., Johnson, M.I., Brown, S.R., Radford, H., Brown, J.M., & Searle, R.D. (2010). Feasibility study of transcutaneous electrical nerve stimulation (TENS) for cancer bone pain. Journal of Pain, 11, 351–359. doi:10.1016/j.jpain.2009.08.002

Berry, S., Waldron, T., Winquist, E., & Lukka, H. (2006). The use of bisphosphonates in men with hormone-refractory prostate cancer: A systematic review of randomized trials. Canadian Journal of Urology, 13, 3180–3188.

Bradt, K., Dileo, C., Grocke, D., & Magill, L. (2011). Music interventions for improving psychological and physical outcomes in cancer patients. Cochrane Database of Systematic Reviews, 2011(8). doi:10.1002/14651858.CD006911.pub2

Burton, A.W., Fanciullo, G.J., & Beasley, R.D. (2007). Chronic pain in the cured cancer patient. In M.J. Fisch & A.W. Burton (Eds.), Cancer pain management (pp. 155–162). New York, NY: McGraw Hill Medical.

Cai, Q., Huang, H., Sun, X., Xia, Z., Li, Y., Lin, X., & Guo, Y. (2008). Efficacy and safety of transdermal fentanyl for treatment of oral mucositis pain caused by chemotherapy. Expert Opinion on Pharmacotherapy, 9, 3137–3144. doi:10.1517/14656560802504508

Cepeda, M.S., Carr, D.B., Lau, J., & Alvarez, H. (2006). Music for pain relief. Cochrane Database of Systematic Reviews, 2006(2). doi:10.1002/14651858.CD004843.pub2

Cepeda, M.S., Chapman, C.R., Miranda, N., Sanchez, R., Rodriguez, C.H., Restrepo, A.E., Carr, D.B. (2008). Emotional disclosure through patient narrative may improve pain and well-being: Results of a randomizedcontrolled trial in patients with cancer pain. Journal of Pain and Symptom Management, 35, 623–631. doi:10.1016/j.jpainsymman.2007.08.011

Challapalli, V., Tremont-Lukas, I.W., McNicol, E.D., Lau, J., & Carr, D.B. (2005). Systematic administrationof local anesthetic agents to relieve neuropathic pain. Cochrane Database of Systematic Reviews, 2005(4). doi:10.1002/14651858.CD003345.pub2

Chang, V.T., Hagen, N.A., & Lee, B.B. (2007). Assessment of pain and other symptoms. In M.J. Fisch & A.W. Burton (Eds.), Cancer pain management (pp. 3–22). New York, NY: McGraw Hill Medical.

Chang, J.T., Lin, C.Y., Lin, J.C., Lee, M.S., Chen, Y.J., & Wang, H.M. (2010). Transdermal fentanyl for pain caused by radiotherapy in head and neck cancer patients treated in an outpatient setting: A multicenter trial in Taiwan. Japanese Journal of Clinical Oncology, 40, 307–312. doi:10.1093/jjco/hyp166

Cheville, A.L., Sloan, J.A., Northfelt, D.W., Jillella, A.P., Wong,

REFERENCES

G.Y., Bearden, J.D., III, … Loprinzi, C.L. (2009). Use of a lidocaine patch in the management of postsurgical neuropathic pain in patients with cancer: A phase III double-blind crossover study (N01CB). Supportive Care in Cancer, 17, 451–460. doi:10.1007/s00520-008-0542-x

Cleeland, C.S. (2006). The measurement of pain from metastatic bone disease: Capturing the patient's experience. Clinical Cancer Research, 12(20, Part 2), 6236s–6242s. doi:10.1158/1078-0432.CCR-06-0988

Collins, S.L., Moore, R.A., & McQuay, H.J. (1997). The visual analogue pain intensity scale: What is moderate pain in millimeters? Pain, 72, 95–97.

Colson, J., Koyyalagunta, D., Falco, F.J., & Manchikanti, L. (2011). A systematic review of observational studies on the effectiveness of opioid therapy for cancer pain. Pain Physician, 14, E85–E102. Retrieved fromhttp://www.painphysicianjournal.com/2011/march/2011;14;E85-E102.pdf

Cubero, D.I., & del Giglio, A. (2010). Early switching from morphine to methadone is not improved by acetaminophenin the analgesia of oncologic patients: A prospective, randomized, double-blind, placebo-controlled study. Supportive Care in Cancer, 18, 235–242. doi:10.1007/s00520-009-0649-8

Cummings, G.G., Olivo, S.A., Biondo, P.D., Stiles, C.R., Yurtseven, O., Fainsinger, R.L., & Hagen, N.A. (2011). Effectiveness of knowledge translation interventions to improve cancer pain management. Journal of Pain and Symptom Management, 41, 915–939. doi:10.1016/j.jpainsymman.2010.07.017

Currow, D.C., Plummer, J.L., Cooney, N.J., Gorman, D., & Glare, P.A. (2007). A randomized double blind multi-site, crossover, placebo-controlled equivalence study of morning versus evening once-daily sustained- release morphine sulfate in people with pain from advanced cancer. Journal of Pain and Symptom Management, 34, 17–23. doi:10.1016/j.jpainsymman.2006.10.011

Curry, E.A., III, & Fausel, C. (2007). Pharmacology of opioids and other analgesics. In M.J. Fisch & A.W. Burton (Eds.), Cancer pain management (pp. 22–38). New York, NY: McGraw Hill Medical.

Davies, A., Sitte, T., Elsner, F., Reale, C., Espinosa, J., Brooks, D., & Fallon, M. (2011). Consistency of efficacy, patient acceptability, and nasal tolerability of fentanyl pectin nasal spray compared with immediaterelease morphine sulfate in breakthrough cancer pain. Journal of Pain and Symptom Management, 41, 358–366. doi:10.1016/j.jpainsymman.2010.11.004

Davies, A.N., Dickman, A., Reid, C., Stevens, A.M., Zeppetella, G., & Science Committee of the Association for Palliative Medicine of Great Britain and Ireland. (2009). The management of cancer-related breakthrough pain: Recommendations of a task group of the Science Committee of the Association for Palliative Medicine of Great Britain and Ireland. European Journal of Pain, 13, 331–338. doi:10.1016/j.ejpain.2008.06.014

De Conno, F., Ripamonti, C., Fagnoni, E., Brunelli, C., Luzzani, M., Maltoni, M., MERITO Study Group. (2008). The MERITO Study: A multicentre trial of the analgesic effect and tolerability of normal-release oral morphine during 'titration phase' in patients with cancer pain. Palliative Medicine, 22, 214–221. doi:10.1177/0269216308088692

Deer, T.R., Smith, H.S., Burton, A.W., Pope, J.E., Doleys, D.M., Levy, R.M., Cousins, M. (2011). Comprehensive consensus based guidelines on intrathecal drug delivery systems in the treatment of pain caused by cancer pain. Pain Physician, 14, E283–E312. http://www.painphysicianjournal.com/linkout_vw.php?issn=1533-3159&vol=14&page=E283

DeMarinis, F., Eberhardt, W., Harper, PG., Sureda, B.M., Nackaerts, K., Soerensen, J.B., Tredaniel, J.(2009). Bisphosphonate use in patients with lung cancer and bone metastases. Journal of Thoracic Oncology,4, 1280–1288.

Demmy, T.L., Nwogu, C., Solan, P., Yendamuri, S., Wilding, G., & DeLeon, O. (2009). Chest tube-delivered bupivacaine improves pain and decreases opioid use after thoracoscopy. Annals of Thoracic Surgery, 87, 1040–1047. doi:10.1016/j.athoracsur.2008.12.099

Deng, G., Rusch, V., Vickers, A., Malhotra, V., Ginex, P., Downey, R., Cassiletha, B. (2008). Randomized controlled trial of a special acupuncture technique for pain after thoracotomy. Journal of Thoracic and Cardiovascular Surgery, 136, 1464–1469. doi:10.1016/j.jtcvs.2008.07.053

Devine, E.C. (2003). Meta-analysis of the effect of psychoeducational interventions on pain in adults with cancer. Oncology Nursing Forum, 30, 75–89. doi:10.1188/03.ONF.75-89

Dworkin, R.H. (2002). An overview of neuropathic pain syndromes, symptoms, signs, and several mechanisms. Clinical Journal of Pain, 18, 343-349.

Dy, S. M., Asch, S. M., Naeim, A., Sanati, H., Walling, A., & Lorenz, K. A. (2008). Evidence-based standards for cancer pain management. Journal of Clinical Oncology : Official Journal of the American Society of Clinical Oncology, 26(23), 3879-3885.doi:10.1200/JCO.2007.15.9517

Eaton, L.H. (2009). Pain. In L.H. Eaton & J.M. Tipton (Eds.), Putting evidence into practice: Improving oncology patient outcomes (pp. 215–221). Pittsburgh, PA: Oncology Nursing Society.

Elsner, F., Radbruch, L., Loick, G., Gaertner, J., & Sabatowski, R. (2005). Intravenous versus subcutaneous morphine titration in patients with persisting exacerbation of cancer pain. Journal of Palliative Medicine, 8, 743–750. doi:10.1089/jpm.2005.8.743.

Fallon, M.T., Colvin, L., Laird, B.J.A. (2010). General inflammatory reaction and cachexia in cancer: Implications for hyperalgesia. In Paice, J., Bell, R., Kalso, E. & Soyuannwo, O., eds. Cancer Pain: From Molecules to Suffering. Seattle, WA: International Association for the Study of Pain (IASP) Press.

Ferguson, S. E., Malhotra, T., Seshan, V. E., Levine, D. A., Sonoda, Y., Chi, D. S., Abu-Rustum, N. R. (2009). A prospective randomized trial comparing patient-controlled epidural analgesia to patient-controlled intravenous analgesia on postoperative pain control and recovery after major open gynecologic cancer surgery. Gynecologic Oncology, 114(1), 111-116. doi:10.1016/j.ygyno.2009.03.014

Fitzgibbon, D.R. & Loeser, J.D. (2010). Cancer pain: Assessment, diagnosis, and management. Philadelphia, PA: Wolters Kluwer, Lippincott Williams & Wilkins.

Flemming, K. (2010). The use of morphine to treat cancer-related pain: a synthesis of quantitative and qualitative research. Journal of Pain and Symptom Management, 39(1), 139-154. doi:10.1016/j.jpainsymman.2009.05.014

Forastiere, E., Sofra, M., Giannarelli, D., Fabrizi, L., & Simone, G. (2008). Effectiveness of continuous wound infusion of 0.5% ropivacaine by On-Q pain relief system for postoperative pain management after open nephrectomy. British Journal of Anaesthesia, 101(6), 841-847. doi:10.1093/bja/aen309

Gartner, R., Kroman, N., Callesen, T., & Kehlet, H. (2010). Multimodal prevention of pain, nausea and vomiting after breast cancer surgery. Minerva Anestesiologica, 76(10), 805-813.

Gaston-Johansson, F., Fall-Dickson, J.M., Bakos, A.B., & Kennedy, M.J. (1999). Fatigue, pain, and depression in pre-autotransplant breast cancer patients. Cancer Practice, 7(5), 240-247.

Goldberg, G. R., & Morrison, R. S. (2007). Pain management in hospitalized cancer patients: a systematic review. Journal of Clinical Oncology : Official Journal of the American Society of Clinical Oncology, 25(13), 1792-1801. doi:10.1200/JCO.2006.07.9038

Gomez-Hernandez, J., Orozco-Alatorre, A. L., Dominguez-Contreras, M., Oceguera-Villanueva, A., Gomez-Romo, S., Alvarez Villasenor, A. S., Gonzalez-Ojeda, A. (2010). Preoperative dexamethasone reduces postoperative pain, nausea and vomiting following mastectomy for breast cancer. BMC Cancer, 10, 692. doi:10.1186/1471-2407-10-692

Gonzales, G.R., Elliott, K.J., Portenoy, R.K., & Foley, K.M. The impact of a comprehensive evaluation in the management of cancer pain. Pain, 47(2), 141-144.

Good, P., Jackson, K., Brumley, D., & Ashby, M. (2009). Intranasal sufentanil for cancer-associated breakthrough pain. Palliative Medicine, 23(1), 54-58. doi:10.1177/0269216308100249

Green, E., Zwaal, C., Beals, C., Fitzgerald, B., Harle, I., Jones, J., Wiernikowski, J. (2010). Cancer-related pain management: a report of evidence-based recommendations to guide practice. The Clinical Journal of Pain, 26(6), 449-462. doi:10.1097/AJP.0b013e3181dacd62

Green, C.R., Hart-Johnson, T. & Loeffler, D.R. (2011). Cancer-related chronic pain: examining quality of life in diverse cancer survivors. Cancer, 117(9), 1994-2003.

Green, C.R., Montague, L., & Hart-Johnson, T.A. (2009). Consistent and breakthrough pain in diverse advanced cancer patients: A longitudinal examination. Journal of Pain and Symptom Management, 37, 831– 847. doi:10.1016/j.jpainsymman.2008.05.011

Grover, V. K., Mathew, P. J., Yaddanapudi, S., & Sehgal, S. (2009). A single dose of preoperative gabapentin for pain reduction and requirement of morphine after total mastectomy and axillary dissection: randomized placebo-controlled double-blind trial. Journal of Postgraduate Medicine, 55(4), 257-260. doi:10.4103/0022-3859.58928

Hayek, S.M., Deer, T.R., Pope, J.E. Panchal, S.J. & Patel, V. (2011). Intrathecal therapy for cancer and non-cancer pain. Pain Physician 14. 219-248.

Heller, L., Kowalski, A. M., Wei, C., & Butler, C. E. (2008). Prospective, randomized, double-blind trial of local anesthetic infusion and intravenous narcotic patient-controlled anesthesia pump for pain management after free TRAM flap breast reconstruction. Plastic and Reconstructive Surgery, 122(4), 1010-1018. doi:10.1097/PRS.0b013e3181858c09

Ho, M.L., Chung, C.Y., Wang, C.C., Lin, H.Y., Hsu, N.C., & Chang, C.S. (2010). Efficacy and safety of tramadol/acetaminophen in the treatment of breakthrough pain in cancer patients. Saudi Medical Journal, 31, 1315–1319.

Hoang, B.X., Tran, D.M., Tran, H.Q., Nguyen, P.T., Pham, T.D., Dang, H.V., Shaw, D.G. (2011). Dimethyl sulfoxide and sodium bicarbonate in the treatment of refractory cancer pain. Journal of Pain and Palliative Care Pharmacotherapy, 25, 19–24.doi:10.3109/15360288.2010.536306

Hollis, A.S. (2010). Acupuncture as a treatment modality for the management of cancer pain: The state of the science. Oncology

REFERENCES

Nursing Forum, 37, E344–E348. doi:10.1188/10.ONF.E344-E348

Homsi, J., Walsh, D., Lasheen, W., Nelson, K.A., Rybicki, L.A., Bast, J., & LeGrand, S.B. (2010). A comparative study of 2 sustained-release morphine preparations for pain in advanced cancer. American Journal of Hospice and Palliative Care, 27(2), 99–105. doi:10.1177/1049909109345146

Israel, F.J., Parker, G., Charles, M., & Reymond, L. (2010). Lack of benefit from paracetamol (acetaminophen) for palliative cancer patients requiring high-dose strong opioids: A randomized, double-blind, placebo-controlled, crossover trial. Journal of Pain and Symptom Management, 39, 548–554. doi:10.1016/j.jpainsymman.2009.07.008

Jackson, E., Kelley, M., McNeil, P., Meyer, E., Schlegel, L., & Eaton, M. (2008). Does therapeutic touch help reduce pain and anxiety in patients with cancer? Clinical Journal of Oncology Nursing, 12, 113–120. doi:10.1188/08.CJON.113-120

Jackson, K., Ashby, M., Howell, D., Petersen, J., Brumley, D., Good, P., Woodruff, R. (2010). The effectiveness and adverse effects profile of "burst" ketamine in refractory cancer pain: The VCOG PM 1-00 study. Journal of Palliative Care, 26, 176–183.

Johnson, C.D., Berry, D.P., Harris, S., Pickering, R.M., Davis, C., George, S., … Sutton, R. (2009). An open randomized comparison of clinical effectiveness of protocol-driven opioid analgesia, celiac plexus block or thoracoscopic splanchnicectomy for pain management in patients with pancreatic and other abdominal malignancies. Pancreatology, 9, 755–763. doi:10.1159/000199441

Johnson, J.R., Burnell-Nugent, M., Lossignol, D., Ganae-Motan, E.D., Potts, R., & Fallon, M.T. (2010). Multicenter, double-blind, randomized, placebo-controlled, parallel-group study of the efficacy, safety, and tolerability of THC: CBD extract and THC extract in patients with intractable cancer-related pain. Journal of Pain and Symptom Management, 39, 167–179. doi:10.1016/j.jpainsymman.2009.06.008

Kampe, S., Wolter, K., Warm, M., Dagtekin, O., Shaheen, S., & Landwehr, S. (2009). Clinical equivalence of controlled-release oxycodone 20 mg and controlled-release tramadol 200 mg after surgery for breast cancer. Pharmacology, 84, 276–281. doi:10.1159/000242998

Kaufman, M., Singh, G., Das, S., Concha-Parra, R., Erber, J., Micames, C., & Gress, F. (2010). Efficacy of endoscopic ultrasound-guided celiac plexus block and celiac plexus neurolysis for managing abdominal pain associated with chronic pancreatitis and pancreatic cancer. Journal of Clinical Gastroenterology, 44, 127–134. doi:10.1097/MCG.0b013e3181bb854d

Keskinbora, K., Pekel, A.F., & Aydinli, I. (2007). Gabapentin and an opioid combination versus opioid alone for the management of neuropathic cancer pain: A randomized open trial. Journal of Pain and Symptom Management, 34, 183–189. doi:10.1016/j.jpainsymman.2006.11.013

Kim, S.Y., Song, J.W., Park, B., Park, S., An, Y.J., & Shim, Y.H. (2011). Pregabalin reduces post-operative pain after mastectomy: A double-blind, randomized, placebo-controlled study. Acta Anaesthesiologica Scandinavica, 55, 290–296. doi:10.1111/j.1399-6576.2010.02374.x

Koshy, R.C., Kuriakose, R., Sebastian, P., & Koshy, C. (2005). Continuous morphine infusions for cancer pain in resource-scarce environments: Comparison of the subcutaneous and intravenous routes of administration. Journal of Pain and Palliative Care Pharmacotherapy, 19, 67–73.

Kress, H.G., Oronska, A., Kaczmarek, Z., Kaasa, S., Colberg, T., & Nolte, T. (2009). Efficacy and tolerability of intranasal fentanyl spray 50 to 200 microg for breakthrough pain in patients with cancer: A phase III, multinational, randomized, double-blind, placebo-controlled, crossover trial with a 10-month, open-label extension treatment period. Clinical Therapeutics, 31, 1177–1191. doi:10.1016/j.clinthera.2009.05.022

Kress, H.G., Von der Laage, D., Hoerauf, K.H., Nolte, T., Heiskanen, T., Petersen, R., Jensen, N.H. (2008). A randomized, open, parallel group, multicenter trial to investigate analgesic efficacy and safety of a new transdermal fentanyl patch compared to standard opioid treatment in cancer pain. Journal of Pain and Symptom Management, 36, 268–279. doi:10.1016/j.jpainsymman.2007.10.023

Kroenke, K., Theobald, D., Wu, J., Norton, K., Morrison, G., Carpenter, J., & Tu, W. (2010). Effect of telecare management on pain and depression in patients with cancer: A randomized trial. JAMA, 304, 163–171. doi:10.1001/jama.2010.944

Kutner, J.S., Smith, M.C., Corbin, L., Hemphill, L., Benton, K., Mellis, B.K., Fairclough, D.L. (2008). Massage therapy versus simple touch to improve pain and mood in patients with advanced cancer: A randomized trial. Annals of Internal Medicine, 149, 369–379.

Kwekkeboom, K.L., Wanta, B., & Bumpus, M. (2008). Individual difference variables and the effects of progressive muscle relaxation and analgesic imagery interventions on cancer pain. Journal of Pain and Symptom Management, 36, 604–615.doi:10.1016/j.jpainsymman.2007.12.011

Lee, H., Schmidt, K., & Ernst, E. (2005). Acupuncture for the relief of cancer-related pain—A systematic review. European Journal of Pain, 9, 437–444. doi:10.1016/j.ejpain.2004.10.004

Legeby, M., Jurell, G., Beausang-Linder, M., & Olofsson, C. (2009). Placebo-controlled trial of local anaesthesia for treatment of pain after breast reconstruction. Scandinavian Journal of Plastic and Reconstructive Surgery and Hand Surgery, 43, 315–319. doi:10.1080/02844310903259108

Lennernäs, B., Frank-Lissbrant, I., Lennernäs, H., Kälkner, K.M., Derrick, R., & Howell, J. (2010). Sublingual administration of fentanyl to cancer patients is an effective treatment for breakthrough pain: Results from a randomized phase II study. Palliative Medicine, 24, 286–293. doi:10.1177/0269216309356138

Lew, M.W., Kravits, K., Garberoglio, C., & Williams, A.C. (2011). Use of preoperative hypnosis to reduce postoperative pain and anesthesia-related side effects. International Journal of Clinical and Experimental Hypnosis, 59, 406–423. doi:10.1080/00207144.2011.594737

Liguori, S., Gottardi, M., Micheletto, G., & Bruno, L. (2010). Pharmacological approach to chronic visceral pain: Focus on oxycodone controlled release: An open multicentric study. European Review for Medical and Pharmacological Sciences, 14, 185–190.

Liossi, C., White, P., & Hatira, P. (2009). A randomized clinical trial of a brief hypnosis intervention to control venepuncture-related pain of paediatric cancer patients. Pain, 142, 255–263. doi:10.1016/j.pain.2009.01.017

Lovell, M.R., Forder, P.M., Stockler, M.R., Butow, P., Briganti, E.M., Chye, R.,Boyle, F.M. (2010). A randomized controlled trial of a standardized educational intervention for patients with cancer pain. Journal of Pain and Symptom Management, 40, 49–59. doi:10.1016/j.jpainsymman.2009.12.013

Maltoni, M., Scarpi, E., Modonesi, C., Passardi, A., Calpona, S., Turriziani, A., Ferrario, S. (2005). A validation study of the WHO analgesic ladder: A two-step versus three-step strategy. Supportive Care in Cancer,13, 888–894. doi:10.1007/s00520-005-0807-6

Marinangeli, F., Ciccozzi, A., Aloisio, L., Colangeli, A., Paladini, A., Bajocco, C., Varrassi, G. (2007). Improved cancer pain treatment using combined fentanyl-TTS and tramadol. Pain Practice, 7, 307–312. doi:10.1111/j.1533-2500.2007.00155.x

Mayyas, F., Fayers, P., Kaasa, S., & Dale, O. (2010). A systematic review of oxymorphone in the management of chronic pain. Journal of Pain and Symptom Management, 39, 296–308. doi:10.1016/j.jpainsymman.2009.07.010

McGuire, D.B. (1995). The multiple dimensions of cancer pain: A framework for assessment and management. In D.B. McGuire, C.H. Yarbro, & B.R. Ferrell (Eds.), Cancer pain management (2nd ed., pp. 1–18). Sudbury, MA: Jones and Bartlett.

McNeely, M.L., Parliament, M.B., Seikaly, H., Jha, N., Magee, D.J., Haykowsky, M.J., & Courneya, K.S. (2008). Effect of exercise on upper extremity pain and dysfunction in head and neck cancer survivors: A randomized controlled trial. Cancer, 113, 214–222. doi:10.1002/cncr.23536

McNichol, E., Strassels, S.A., Goudas, L., Lau, J., & Carr, D.B. (2005). NSAIDs or paracetamol, alone or combined with opioids for cancer pain. Cochrane Database of Systematic Reviews 2005(2). doi:10.1002/14651858.CD.005180

Mercadante, S., Arcuri, E., Ferrera, P., Villari, P., & Mangione, S. (2005). Alternative treatments of breakthrough pain in patients receiving spinal analgesics for cancer pain. Journal of Pain and Symptom Management, 30, 485–491. doi:10.1016/j.jpainsymman.2005.04.014

Mercadante, S., Ferrera, P., & Arcuri, E. (2011). The use of fentanyl buccal tablets as breakthrough medication in patients receiving chronic methadone therapy: An open label preliminary study. Supportive Care in Cancer, 19, 435–438. doi:10.1007/s00520-010-1015-6

Mercadante, S., Intravaia, G., Villari, P., Ferrera, P., Riina, S., David, F., & Mangione, S. (2007). Intrathecal treatment in cancer patients unresponsive to multiple trials of systemic opioids. Clinical Journal of Pain, 23, 793–798. doi:10.1097/AJP.0b013e3181565d17

Mercadante, S., Porzio, G., Ferrera, P., Aielli, F., Verna, L., Tirelli, W., Casuccio, A. (2009). Low doses of transdermal buprenorphine in opioid-naive patients with cancer pain: A 4-week, nonrandomized, open-label, uncontrolled observational study. Clinical Therapeutics, 31, 2134–2138. doi:10.1016/j.clinthera.2009.10.013

Mercadante, S., Radbruch, I, Caraceni, A., Cherny, N., Kassa, S., Nauck, F., … De Conno, F. (2002). Episodic (breakthrough) pain: Consensus conference of an expert working group of the European Association for Palliative Care. Cancer, 94, 832–839. doi:10.1002/cncr.10249

Mercadante, S., Radbruch, L., Davies, A., Poulain, P., Sitte, T., Perkins, P., … Camba, M.A. (2009). A comparison of intranasal fentanyl spray with oral transmucosal fentanyl citrate for the treatment of breakthrough cancer pain: An open-label, randomised, crossover trial. Current Medical Research and Opinion, 25, 2805–2815. doi:10.1185/03007990903336135

Mercadante, S., Tirelli, W., David, F., Arcara, C., Fulfaro, F., Casuccio, A., & Gebbia, V. (2010). Morphine versus oxycodone in pancreatic cancer pain: A randomized controlled study. Clinical Journal of Pain, 26, 794–797. doi:10.1097/AJP.0b013e3181ecd895

Mercadante, S., Villari, P., Ferrera, P., Mangione, S., & Casuccio, A. (2010). The use of opioids for breakthrough pain in acute palliative care unit by using doses proportional to opioid basal regimen. Clinical Journal of Pain, 26, 306–309. doi:10.1097/AJP.0b013e3181c4458a

Miaskowski, C. (2010). Cancer pain. In C.G. Brown (Ed.), A guide to oncology symptom management (pp. 389–404). Pittsburgh, PA: Oncology Nursing Society.

Miaskowski, C., Cleary, J., Burney, R., Coyne, P., Finley, R., Foster, R., Zahrbock, C. (2005). Guideline for the management of

REFERENCES

cancer pain in adults and children (APS Clinical Practice Guidelines Series, No.3). Glenview, IL: American Pain Society.

Miaskowski, C., & Lee, K.A. (1999). Pain, fatigue, and sleep disturbances in oncology outpatients receiving radiation therapy for bone metastasis: A pilot study. Journal of Pain and Symptom Management, 17, 320– 332. Retrieved from http://www.jpsmjournal.com/article/S0885-3924(99)00008-1/fulltext

Miyazaki, T., Hanaoka, K., Namiki, A., Ogawa, S., Kitajima, T., Hosokawa, T., Mashimo, S. (2008). Efficacy, safety and pharmacokinetic study of a novel fentanyl-containing matrix transdermal patch system in Japanese patients with cancer pain. Clinical Drug Investigation, 28, 313–325.

Montgomery, G.H., Weltz, C.R., Seltz, M., & Bovbjerg, D.H. (2002). Brief presurgery hypnosis reduces distress and pain in excisional breast biopsy patients. International Journal of Clinical and Experimental Hypnosis, 50, 17–32. doi:10.1080/00207140208410088

Myers, J., Chan, V., Jarvis, V., & Walker-Dilks, C. (2010). Intraspinal techniques for pain management in cancer patients: A systematic review. Supportive Care in Cancer, 18, 137–149. doi:10.1007/s00520-009-0784-2

Nadstawek, J., Leyendecker, P., Hopp, M., Ruckes, C., Wirz, S., Fleischer, W., & Reimer, K. (2008). Patient assessment of a novel therapeutic approach for the treatment of severe, chronic pain. International Journal of Clinical Practice, 62, 1159–1167. doi:10.1111/j.1742-1241.2008.01820.x

Nalamachu, S., Hassman, D., Wallace, M.S., Dumble, S., Derrick, R., & Howell, J. (2011). Long-term effectiveness and tolerability of sublingual fentanyl orally disintegrating tablet for the treatment of breakthrough cancer pain. Current Medical Research and Opinion, 27, 519–530. doi:10.1185/03007995.2010.545380

National Comprehensive Cancer Network. (2011). NCCN Clinical Practice Guidelines in Oncology: Adult cancer pain [v. 2.2011.]. Retrieved from http://www.nccn.org/professionals/physician_gls/pdf/pain.pdf

Paley, C.A., Johnson, M.I., Tashani, O.A., & Bagnall, A.M. (2011). Acupuncture for cancer pain in adults. Cochrane Database of Systematic Reviews, 2011(1). doi:10.1002/14651858.CD007753.pub2

Paul, S.M., Zelman, D.C., Smith, M., & Miaskowski, C. (2005). Categorizing the severity of cancer pain: Further exploration of the establishment of cutpoints. Pain, 113, 37–44. doi:10.1016/j.pain.2004.09.014

Pergolizzi, S., Iati, G., Santacaterina, A., Palazzolo, C., Di Pietro, A., Garufi, G., & Ferrau, F. (2006). Treatment planning in patients with bone metastases: Final results of a prospective study using pre-medication with fentanyl to improve irradiation reproducibility. Supportive and Palliative Cancer Care, 2(2), 71–75.

Pergolizzi, J.V., Jr., Mercadante, S., Echaburu, A.V., Van den Eynden, B., Fragoso, R.M., Mordarski, S., Slama, O. (2009). The role of transdermal buprenorphine in the treatment of cancer pain: An expert panel consensus. Current Medical Research and Opinion, 25, 1517–1528. doi:10.1185/03007990902920731

Portenoy, R.K., Burton, A.W., Gabrail, N., Taylor, D., & Fentanyl Pectin Nasal Spray 043 Study Group. (2010). A multicenter, placebo-controlled, double-blind, multiple-crossover study of Fentanyl Pectin Nasal Spray (FPNS) in the treatment of breakthrough cancer pain. Pain, 151, 617–624. doi:10.1016/j.pain.2010.07.028

Portenoy, R.K., Raffaeli, W., Torres, L.M., Sitte, T., Deka, A.C., Herrera, I.G., … Fentanyl Nasal Spray Study 045 Investigators Group. (2010). Long-term safety, tolerability, and consistency of effect of fentanyl pectin nasal spray for breakthrough cancer pain in opioid-tolerant patients. Journal of Opioid Management, 6, 319–328.

Poulain, P., Denier, W., Douma, J., Hoerauf, K., Samija, M., Sopata, M., & Wolfram, G. (2008). Efficacy and safety of transdermal buprenorphine: A randomized, placebo-controlled trial in 289 patients with severe cancer pain. Journal of Pain and Symptom Management, 36, 117–125. doi:10.1016/j.jpainsymman.2007.09.011

Puli, S.R., Reddy, J.B., Bechtold, M.L., Antillon, M.R., & Brugge, W.R. (2009). EUS-guided celiac plexus neurolysis for pain due to chronic pancreatitis or pancreatic cancer pain: A meta-analysis and systematic review. Digestive Diseases and Sciences, 54, 2330–2337. doi:10.1007/s10620-008-0651-x

Qaseem, A., Snow, V., Shekelle, P., Casey, D.E., Jr., Cross, J.T., Jr., Owens, D.K., Shekelle, P. (2008). Evidence-based interventions to improve the palliative care of pain, dyspnea, and depression at the end of life: A clinical practice guideline from the American College of Physicians. Annals of Internal Medicine,148, 141–146.

Rauck, R., North, J., Gever, L.N., Tagarro, I., & Finn, A.L. (2010). Fentanyl buccal soluble film (FBSF) for breakthrough pain in patients with cancer: A randomized, double-blind, placebo-controlled study. Annals of Oncology, 21, 1308–1314. doi:10.1093/annonc/mdp541

Rauck, R.L., Tark, M., Reyes, E., Hayes, T.G., Bartkowiak, A.J., Hassman, D Howell, J. (2009). Efficacy and long-term tolerability of sublingual fentanyl orally disintegrating tablet in the treatment of breakthrough cancer pain. Current Medical Research and Opinion, 25, 2877–2885. doi:10.1185/03007990903368310

Rheingans, J.I. (2007). A systematic review of nonpharmacologic

adjunctive therapies for symptom management in children with cancer. Journal of Pediatric Oncology Nursing, 24, 81–94. doi:10.1177/1043454206298837

Richardson, J., Smith, J.E., McCall, G., & Pilkington, K. (2006). Hypnosis for procedure-related pain and distress in pediatric cancer patients: A systematic review of effectiveness and methodology related to hypnosis interventions. Journal of Pain and Symptom Management, 31, 70–84. doi:10.1016/j.jpainsymman.2005.06.010

Ridgway, D., Sopata, M., Burneckis, A., Jespersen, L., & Andersen, C. (2010). Clinical efficacy and safety of once-daily dosing of a novel, prolonged-release oral morphine tablet compared with twice-daily dosing of a standard controlled-release morphine tablet in patients with cancer pain: A randomized, double-blind,exploratory crossover study. Journal of Pain and Symptom Management, 39, 712–720. doi:10.1016/j.jpainsymman.2009.08.013

Ripamonti, C.I., Bandieri, E., & Roila, F. (2011). Management of cancer pain: ESMO clinical practice guidelines.Annals of Oncology, 22, vi 69–vi77. doi:10.1093/annonc/mdr390

Robb, K.A., Bennett, M.I., Johnson, M.I., Simpson, K.J., & Oxberry, S.G. (2008). Transcutaneous electric nerve stimulation (TENS) for cancer pain in adults. Cochrane Database of Systematic Reviews, 2008(3).doi:10.1002/14651858.CD006276.pub2

Rodriguez, R.F., Castillo, J.M., Castillo, M.P., Montoya, O., Daza, P., Rodriguez, M.F., Angel, A.M. (2008). Hydrocodone/acetaminophen and tramadol chlorhydrate combination tablets for the management of chronic cancer pain: A double-blind comparative trial. Clinical Journal of Pain, 24, 1–4. doi:10.1097/ AJP.0b013e318156ca4d

Ross, J.R., Goller, K., Hardy, J., Riley, J., Broadley, K., A'hren, R., & Williams, J. (2005). Gabapentin is effectivein the treatment of cancer-related neuropathic pain: A prospective, open-label study. Journal of Palliative Medicine, 8, 1118–1126. doi:10.1089/jpm.2005.8.1118

Saad, F., & Eastham, J. (2010). Zoledronic acid improves clinical outcomes when administered before onsetof bone pain in patients with prostate cancer. Urology, 76, 1175–1181. doi:10.1016/j.urology.2010.05.026

Samuels, J.G. (2010). The application of high-reliability theory to promote pain management. Journal of Nursing Administration, 40, 471–476. doi:10.1097/NNA.0b013e3181f88a41

Samulak, D., Michalska, M., Gaca, M., Wilczak, M., Mojs, E., & Chuchracki, M. (2011). Efficiency of postoperativepain management after gynecologic oncological surgeries with the use of morphine + acetaminophen + ketoprofen versus morphine + metamizole + ketoprofen. European Journal of Gynaecological Oncology, 32, 168–170.

Schutter, U., Grunert, S., Meyer, C., Schmidt, T., & Nolte, T. (2010). Innovative pain therapy with a fixed combination of prolonged-release oxycodone/naloxone: A large observational study under conditions of daily practice. Current Medical Research and Opinion, 26, 1377–1387. doi:10.1185/03007991003787318

Serlin, R.C., Mendoza, T.R., Nakamura, Y., Edwards, K.R., & Cleeland, C.S. (1995). When is cancer pain mild, moderate or severe? Grading pain severity by its interference with function. Pain, 6, 277–284. doi:10.1016/0304-3959(94)00178-H

Sharma, S., Rajagopal, M.R., Palat, G., Singh, C., Haji, A.G., & Jain, D. (2009). A phase II pilot study to evaluate use of intravenous lidocaine for opioid-refractory pain in cancer patients. Journal of Pain and Symptom Management, 37, 85–93. doi:10.1016/j.jpainsymman.2007.12.023

Silvestri, B., Bandieri, E., Del Prete, S., Ianniello, G.P., Micheletto, G., Dambrosio, M., … Spanu, P. (2008). Oxycodone controlled-release as first-choice therapy for moderate-to-severe cancer pain in Italian patients: Results of an open-label, multicentre, observational study. Clinical Drug Investigation, 28, 399–407.

Slatkin, N.E., Xie, F., Messina, J., & Segal, T.J. (2007). Fentanyl buccal tablet for relief of breakthrough pain in opioid tolerant patients with cancer-related chronic pain. Journal of Supportive Oncology, 5, 327–334.

Slatkin, N.E., Rhiner, M.I., Gould, E.M., Ma, T., & Ahdieh, H. (2010). Long-term tolerability and effectiveness of oxymorphone extended release in patients with cancer. Journal of Opioid Management, 6, 181–191. doi:10.5055/jom.2010.0016

Syrjala, K.L., Abrams, J.R., Polissar, N.L., Hansberry, J., Robison, J., DuPen, S., DuPen, A. (2008). Patient training in cancer pain management using integrated print and video materials: A multisite randomized controlled trial. Pain, 135, 175–186. doi:10.1016/j.pain.2007.10.026

Takase, H., Sakata, T., Yamano, T., Sueta, T., Nomoto, S., & Nakagawa, T. (2011). Advantage of early induction of opioid to control pain induced by irradiation in head and neck cancer patients. Auris, Nasus, Larynx, 38, 495–500. doi:10.1016/j.anl.2010.12.012

Tasmacioglu, B., Aydinli, I., Keskinbora, K., Pekel, A.F., Salihoglu, T., & Sonsuz, A. (2009). Effect of intravenous administration of paracetamol on morphine consumption in cancer pain control. Supportive Care in Cancer, 17, 1475–1481. doi:10.1007/s00520-009-0612-8

Tassinari, D., Sartori, S., Tamburini, E., Scarpi, E., Raffaeli, W., Tombesi, P., & Maltoni, M.(2008). Adverse effects of transdermal opiates treating moderate-severe cancer pain in comparison to long-acting morphine: A meta-analysis and systematic review of the literature. Journal of Palliative Medicine, 11, 492–501. doi:10.1089/jpm.2007.0200

REFERENCES

Tatrow, K., & Montgomery, G.H. (2006). Cognitive behavioral therapy techniques for distress and pain in breast cancer patients: A meta-analysis. Journal of Behavioral Medicine, 29, 17–27. doi:10.1007/s10865-005-9036-1

Taylor, D., Galan, V., Weinstein, S.M., Reyes, E., Pupo-Araya, A.R., Rauck, R., & Fentanyl Pectin Nasal Spray 043 Study Group. (2010). Fentanyl pectin nasal spray in breakthrough cancer pain. Journal of Supportive Oncology, 8, 184–190. Retrieved from http://jso.imng.com/jso/journal/articles/0804184.pdf

Tei, Y., Morita, T., Nakaho, T., Takigawa, C., Higuchi, A., Suga, A., Fujimoto, M. (2008). Treatment efficacy of neural blockade in specialized palliative care services in Japan: A multicenter audit survey. Journal of Pain and Symptom Management, 36, 461–467. doi:10.1016/j.jpainsymman.2007.11.009

Tessaro, L., Bandieri, E., Costa, G., Fornasier, G., Iorno, V., Pizza, C., Micheletto, G. (2010). Use of oxycodone controlled-release immediately after NSAIDs: A new approach to obtain good pain control. European Review for Medical and Pharmacological Sciences, 14, 113–121.

Tsay, S.L., Chen, H.L., Chen, S.C., Lin, H.R., & Lin, K.C. (2008). Effects of reflexotherapy on acute postoperative pain and anxiety among patients with digestive cancer. Cancer Nursing, 31, 109–115. doi:10.1097/01. NCC.0000305694.74754.7b

Tulipani, C., Morelli, F., Spedicato, M.R., Maiello, E., Todarello, O., & Porcelli, P. (2010). Alexithymia and cancer pain: The effect of psychological intervention. Psychotherapy and Psychosomatics, 79, 156–163. doi:10.1159/000286960

Ture, H., Sayiun, M., Karlikaya, G., Bingol, C.A., Aykac, B., & Ture, U. (2009). The analgesic effect of gabapentinas a prophylactic anticonvulsant drug on post-craniotomy pain: A prospective randomized trial.Anesthesia and Analgesia, 109, 1625–1631. doi:10.1213/ane.0b013e3181b0f18b

Überall, M.A., & Müller-Schwefe, G.H. (2011). Sublingual fentanyl orally disintegrating tablet in daily practice: Efficacy, safety and tolerability in patients with breakthrough cancer pain. Current Medical Research and Opinion, 27, 1385–1394. doi:10.1185/03007995.2011.583231 U.S. Department of Justice Drug Enforcement Agency. (2011, January). The DEA position on marijuana. Retrieved from http://www.justice.gov/dea/marijuana_position.pdf

van den Beuken-van Everdingen, M.H.J., de Rijke, J.M., Kessels, A.G., Schouten, H.C., van Kleef, M., & Patijn,J. (2007). Prevalence of pain in patients with cancer: A systematic review of the past 40 years. Annals of Oncology, 18, 1437–1449. doi:10.1093/annonc/mdm056

Van Poznak, C.H., Temin, S., Yee, G.C., Janjan, N.A., Barlow, W.E., Bierman, J.S., Von Roenn, J.H., (2011). American Society of Clinical Oncology clinical practice guideline update on the role of bone-modifying agents in metastatic breast cancer. Retrieved from http://www.asco.org/ASCO/Downloads/Cancer%20Policy%20and%20Clinical%20Affairs/Clinical%20Affairs%20(derivative%20products)/Bisphos%20Breast/Full%20BMA%20Gline%20U5209.pdf

Vissers, D., Stam, W., Nolte, T., Lenre, M., & Jansen, J. (2010). Efficacy of intranasal fentanyl spray versus other opioids for breakthrough pain in cancer. Current Medical Research and Opinion, 26, 1037–1045.doi:10.1185/03007991003694340

Wallace, M., Moulin, D.E., Rauck, R.L., Khanna, S., Tudor, I.C., Skowronski, R., & Thipphawong, J. (2009). Long-term safety, tolerability, and efficacy of OROS hydromorphone in patients with chronic pain. Journal of Opioid Management, 5, 97–105.

Ward, S., Donovan, H., Gunnarsdottir, S., Serlin, R.C., Shapiro, G.R., & Hughes, S. (2008). A randomized trial of a representational intervention to decrease cancer pain (RIDcancerPain). Health Psychology, 27, 59–67. doi:10.1037/0278-6133.27.1.59

Ward, S.E., Serlin, R.C., Donovan, H.S., Ameringer, S.W., Hughes, S., Pe-Romashko, K., & Wang, K.K. (2009). A randomized trial of a representational intervention for cancer pain: Does targeting the dyad make a difference? Health Psychology, 28, 588–597. doi:10.1037/a0015216

Ward, S.E., Wang, K.K., Serlin, R.C., Peterson, S.L., & Murray, M.E. (2009). A randomized trial of a tailored barriers intervention for Cancer Information Service (CIS) callers in pain. Pain, 144, 49–56. doi:10.1016/j. pain.2009.02.021

Weinstein, S.M., Messina, J., & Xie, F. (2009). Fentanyl buccal tablet for the treatment of breakthrough pain in opioid-tolerant patients with chronic cancer pain: A long-term, open-label safety study. Cancer, 115, 2571–2579. doi:10.1002/cncr.24279

Wiffen, P.J., & McQuay, H.J. (2007). Oral morphine for cancer pain. Cochrane Database of Systematic Reviews, 2007(4). doi:10.1002/14651858.CD003868.pub2

Wong, R.K.S., & Wiffen, P.J. (2002). Bisphosphonates for the relief of pain secondary to bone metastases. Cochrane Database of Systematic Reviews, 2002(2). doi:10.1002/14651858.CD002068 World Health Organization. (n.d.). Palliative care. Retrieved from http://www.who.int/cancer/palliative/en/

Wu, T.H., Chiu, T.Y., Tsai, J.S., Chen, C.Y., Chen, L.C., & Yang, L.L. (2008). Effectiveness of Taiwanese traditional herbal diet for pain management in terminal cancer patients. Asia Pacific Journal of Clinical Nutrition, 17, 17–22. Retrieved from http://apjcn.nhri.org.tw/server/APJCN/Volume17/vol17.1/Finished/17-22-967.pdf

Wyse, J.M., Carone, M., Paquin, S.C., Usatii, M., & Sahai, A.V. (2011). Randomized, double-blind, controlled trial of early endoscopic ultrasound-guided celiac plexus neurolysis to

prevent pain progression in patients with newly diagnosed, painful, inoperable pancreatic cancer. Journal of Clinical Oncology, 29, 3541– 3546. doi:10.1200/JCO.2010.32.2750

Xu, L., Lao, L.X., Ge, A., Yu, S., Li, J., & Mansky, P.J. (2007). Chinese herbal medicine for cancer pain. Integrative Cancer Therapies, 6, 208–234. doi:10.1177/1534735407305705

Yan, B.M., & Myers, R.P. (2007). Neurolytic celiac plexus block for pain control in unresectable pancreatic cancer. American Journal of Gastroenterology, 102, 430–438. doi:10.1111/j.1572-0241.2006.00967.x

Yuen, K.K., Shelley, M., Sze, W.M., Wilt, T.J., & Mason, M. (2010). Bisphosphonates for advanced prostate cancer. Cochrane Database of Systematic Reviews, 2010(4). doi:10.1002/14651858.CD006250

Zeppetella, G., & Ribeiro, M.D. (2003). The pharmacotherapy of cancer-related episodic pain. Expert Opinion Pharmacotherapy, 4, 493–502.

Zeppetella, G., & Ribeiro, M.D.C. (2006). Opioids for the management of breakthrough (episodic) pain in cancer patients. Cochrane Database of Systematic Reviews, 2006(1). doi:10.1002/14651858.CD004311.pub2

Added references/guidance from the European Expert Group

Source

2010-Cancer Pain Management.
Website: www.britishpainsociety.org

Summary

A perspective from the British Pain Society, supported by the Association for Palliative Medicine and the Royal College of General Practitioners
Clinical guideline for the management of cancer pain.

Conclusions and Implications

• It is recognised that the World Health Organisation (WHO) analgesic ladder, whilst providing relief of cancer pain towards the end of life for many sufferers worldwide, may have limitations in the context of long-term survival and increasing disease complexity. In order to address these weaknesses, it is suggested that a more comprehensive model of cancer pain management is needed that is mechanism-based and multimodal, using combination therapies including interventions where appropriate, which is tailored to the needs of an individual, with the aim of optimising pain relief while minimalising adverse effects.

• The neurophysiology of cancer pain is complex: it involves inflammatory, neuropathic, ischaemic and compression mechanisms at multiple sites. A knowledge of these mechanisms and the ability to decide whether a pain is nociceptive, neuropathic, visceral or a combination of all three will lead to best practice in pain management.

• People with cancer can report the presence of several different anatomical sites of pain, which may be caused by the cancer, by treatment of cancer, by general debility or by concurrent disorders. Accurate and meaningful assessment and reassessment of pain is essential and optimises pain relief. History, examination, psychosocial assessment and accurate record keeping should be routine, with pain and quality of life measurement tools used where appropriate.

• Radiotherapy, chemotherapy, hormones, bisphosphonates and surgery are all used to treat and palliate cancers. Combining these treatments with pharmacological and non-pharmocological methods of pain control can optimise pain relief, but the limitations of these treatments must also be acknowledged.

• Opioids remain the mainstay of cancer pain management, but the long-term consequences of tolerance, dependency, hyperalgesia and the suppression of the hypothalamic/pituitary axis should be acknowledged and managed in both non-cancer and cancer pain, in addition to the well-known side effects such as constipation. NSAIDs, antiepileptic drugs, tricyclic antidepressants, NMDA antagonists, sodium channel blockers, topical agents and the neuraxial route of drug administration all have their place in the management of complex cancer pain.

• Psychological distress increases with the intensity of cancer pain. Cancer pain is often under-reported and under-treated for a variety of complex reasons, partly due to a number of beliefs held by patients, families and healthcare professionals. There is evidence that cognitive behavioural techniques that address catastrophising and promote self-efficacy lead to improved pain management. Group format pain management programmes could contribute to the care of cancer survivors with persistent pain.

• Physiotherapists and Occupational Therapists have an important role in the management of cancer pain and have specific skills which enable them to be both patient-focused and holistic. Therapists utilize strategies which aim to improve patient functioning and quality of life, but the challenge remains for them to practice in an evidence-based way and more research is urgently needed in this field.

• Patient selection for an interventional procedure requires knowledge of the disease process, the prognosis, the expectations of patient and family, careful assessment and discussion with the referring physicians. There is good evidence

for the effectiveness of coeliac plexus neurolysis and intrathecal drug delivery. Despite the limitations of running randomised controlled trials for interventional procedures in patients with limited life expectancy and severe pain, there is a body of evidence of data built up over many years that supports an important role for some procedures, such as cordotomy. Safety, aftercare and the management of possible complications have to be considered in the decision making process. Where applied appropriately and carefully at the right time, these procedures can contribute enhanced pain relief, reduction of medication use and markedly improved quality of life.

• There is a weak evidence base for the effectiveness of complementary therapies in terms of pain control, but they may improve wellbeing. Safety issues are also a consideration in this area.

• Patients with cancer pain spend most of their time in the community until their last month of life. Older patients and those in care homes in particular may have under-treated pain. Primary care teams supported by palliative care teams are best placed to initiate and manage cancer pain therapy, but education of patients, carers and healthcare professionals is essential to improve outcomes.

• Surgery, chemotherapy and radiotherapy are cancer treatments that can cause persistent pain in cancer survivors, up to 50% of whom may experience persistent pain that adversely affects their quality of life. Awareness of this problem may lead to preventative strategies, but treatment is currently symptom based and often inadequate.

• Management of acute pain, especially post-operative pain, in patients on high dose opioids is a challenge that requires in-depth knowledge of pharmacokinetics and the formulation of a careful management plan to avoid withdrawal symptoms and inadequate pain management.

• Chronic pain after cancer surgery may occur in up to 50% of patients. Risk factors for the development of chronic pain after breast cancer surgery include: young age, chemo and radiotherapy, poor post-operative pain control and certain surgical factors. Radiotherapy induced neuropathic pain has become less prevalent, but can cause long-standing pain and disability.

• Patient education is an effective strategy to reduce pain intensity.

• Cancer pain is often very complex, but the most intractable pain is often neuropathic in origin, arising from tumour invasion of the meninges, spinal cord and dura, nerve roots, plexuses and peripheral nerves. Multimodal therapies are necessary.

• The management of cancer pain can and should be improved by better collaboration between the disciplines of oncology, pain medicine and palliative medicine. This must start in the training programmes of doctors and nurses, but is also needed in established teams in terms of funding, time for joint working and the education of all healthcare professionals involved in the treatment of cancer pain.

• The principles of pain management and palliative care for adult practice are relevant to paediatrics, but the adult model cannot be applied directly to children.

Source

2008- Intrathecal drug delivery for the management of pain and spacity in adults: Recommendations for best clinical practice. Website: www.britishpainsociety.org

Summary

British Pain Society in consultation with the Association of Palliative Medicine and the Society of British Neurological Surgeons, clinical practice guideline for the use of intrathecal analgesia.

Conclusions and Implications

- Intrathecal drug delivery can be an effective method of pain control; it has a supportive evidence base.
- There are three major categories of application namely, chronic non malignant pain (CNMP), cancer pain and spasticity.
- For CNMP there is presently no randomised controlled trial evidence but supportive prospective open studies.
- For cancer pain there is randomised controlled trial evidence
- For spasticity there are well designed open studies for effectiveness.
- Patient selection is important, particularly when used for CNMP. It must be carried out by a multiprofessional team with a comprehensive understanding of the physical, psychological and rehabilitation aspects of the patient's condition.
- A multiprofessional, relevant infrastructure must be provided for continuing care.
- A range of alternative treatments with appropriate support for their delivery should be available and considered.
- Adherance to best practice is essential. Uniformity of best practice should be encouraged; this does not stifle development in the use of the technique.
- Safety is paramount. The working group strongly support research and ongoing work into design safety.
- In the opinion of the working group ITDD is an underused technique in all three categories of CNMP, cancer pain and spasticity and should be made more widely available.

Source

SIGN- Scottish Intercollegiate Guidelines Network (2008) 106- Control of pain in adults with cancer.

Summary

www.sign.ac.uk
Clinical guideline for managing cancer pain in adults.

Conclusions and Implications

Overall objectives

This guideline provides recommendations based on current evidence for best practice in the management of pain in adult patients who have cancer. The guideline includes advice mainly concerning pain secondary to the cancer, but many of the principles outlined are applicable to coexisting painful conditions and pain secondary to treatment of the cancer. It excludes the treatment of pain in children under the age of 12.

Target users of the guideline

This guideline will be of interest to any health professional likely to encounter a patient with cancer-related pain of any severity, including palliative care staff, physicians, surgeons, anaesthetists, nurses, physiotherapists, occupational therapists, interventional radiologists, oncologists, nurses, pharmacists, clinical psychologists, general practitioners and spiritual and religious care providers. It will also be of interest to patients with cancer pain and their carers.

Provides a concise and evidence base reference for pharmacological and non-pharmacological interventions for the management of cancer pain and other invasive interventions.

Source

National Institute for Health and Clinical Excellence (NICE) 2010- Neuropathic pain- pharmacological management.

Summary

www.nice.org.uk

Clinical guideline for managing neuropathic pain

Conclusions and Implications

Neuropathic pain develops as a result of damage to, or dysfunction of, the system that normally signals pain. It may arise from a heterogeneous group of disorders that affect the peripheral and central nervous systems. Common examples include painful diabetic neuropathy, post-herpetic neuralgia and trigeminal neuralgia.

Neuropathic pain can have a significant impact on a person's quality of life. It is often difficult to treat, because it is resistant to many medications and because of the adverse effects associated with effective medications. Drugs used in the management of neuropathic pain include antidepressants, anti-epileptic (anticonvulsant) drugs and opioids.

This guideline is for the pharmacological management of neuropathic pain in non-specialist settings only. There are other pharmacological and non-pharmacological treatments for neuropathic pain, within different care pathways in different settings, but these are not covered here.

Currently being revised but should consider referencing this version and then updating once once the revised version is available. There is ongoing concern that first line recommendation to use Pregabalin has cost implications and this is why it is currently being reviewed. However, this version is currently to be followed until this review is complete.

Source

International Association for the Study of Pain (IASP) Pain Clinical Updates, Vol XVIII (9) Nov 2010, Pharmacological Management of Neuropathic Pain.

Summary

www.iasp-pain.org/AM/AMTemplate.cfm

Clinical guideline for managing neuropathic pain.

Conclusions and Implications

Evidence based guideline for the assessment and treatment of neuropathic pain. The management of patients with chronic neuropathic pain is challenging,4–8 despite several attempts to develop a more rational therapeutic approach.8,9 Most studies have been performed in postherpetic neuralgia (PHN) and painful diabetic neuropathy (PDN). These trials mainly studied the effects of monotherapy and were placebo controlled. Outcome measures were generally restricted to a global assessment of pain by The management of patients with chronic neuropathic pain is challenging, despite several attempts to develop a more rational therapeutic approach the patient, and the quality of pain was seldom taken into account. However, newer studies have appeared that may allow us to revise this statement. Thus, studies have recently been performed in indications that were previously neglected, such as central pain and painful radiculopathies; combination studies and head-to-head comparative studies have appeared; and finally, a comprehensive assessment of patients, including the quality of their pain, is increasingly being performed in clinical trials. This issue of Pain: Clinical Updates will address new developments in the therapeutic management of neuropathic pain.

Source

Caraceni, Hanks, Kaasa et al.
European Association for Palliative Care (EAPC)
Lancet Oncology, vol 13; 2012: e58-e68.

Summary

These guidelines were developed by the EAPC following the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system.

The 19 reviews on which this guideline is based, have been published in Palliative Medicine. (25, 2011)

Conclusions and Implications

EAPC recommendations:

WHO step II opioids

Weak recommendation to start Step II opioids in patients with

mild/moderate pain or whose pain is not adequately controlled by WHO step I.

WHO step III opioid of first choice
Weak recommendation that morphine, oxycodone, and hydromorphone given orally can be used as the first choice step III opioid for moderate to severe pain.

Opioid titration
Weak recommendation that IR and SR oral formulations of morphine, oxycodone, and hydromorphone can be used for dose titration.

Transdermal opioids
Weak recommendation that trandermal fentanyl and buprenorphine may be the preferred step III opioid for some patients. For patients unable to swallow they are an effective, non-invasive means of opioid delivery.

Methadone
Weak recommendation that methadone can be used as a step III opioid of first or later choice for moderate to severe cancer pain. Because methadone has a complex pharmacokinetic profile with an unpredictably long half-life, it should be used only by experienced professionals.

Opioid switching
Weak recommendation that patients receiving step III opioids who do not achieve adequate analgesia and have side-effects that are severe, unmanageable might benefit from switching to an alternative opioid. Alternative systematic routes of opioid administration.

Strong recommendations:
• Subcutaneous route should be the first choice alternative route for patients unable to receive opioids by oral or transdermal routes, because it is simple and effective for administration of morphine, diamorphine, and hydromorphone.
• Intravenous infusion should be considered when subcutaneous administration is contraindicated.
• Intravenous administration should be used for opioid titration when rapid pain control is needed.

Weak recommendations:
• IV/ SC infusions can de used in patients unable to achieve pain control with oral/ transdermal administration.
• Patient-controlled analgesia can de adopted for IV/ SC infusions in patients who are able and willing to be in control of rescue doses.
• Switching from oral to IV/SC morphine administration, the relative analgesic potency is the same for both routes.
• The rectal route of administration should be used only as a second choice.

Breakthrough pain
Strong recommendation that breakthrough pain can be effectively managed with oral, IR opioids or with bucal or intranasal fentanyl preparations.
Weak recommendation that IR formulations of opioids with short half-lives should be used to treat pre-emptively episodes of breakthrough pain in the 20-30 min preceding the provoking manoeuvre.

Opioid-related emesis
Weak recommendation that some antidopaminergic drugs (eg haloperidol) and other drugs with antidopaminergic and additional modes of action (eg. metoclopramide) should be used in patients with opioid-induced emesis.

Opioid-related constipation
Strong recommendation to routinely prescribe laxatives for the management or prophylaxis op opioid-induced constipation. No evidence suggests that one laxative agent should be recommended over others.

Opioid-related CNS symptoms
Weak recommendation that methylphenidate can be used to improve opioid-induced sedation.

Weak recommendation that in patients with opioid-related neurotoxic effects dose reduction or opioid switching should be considered.

Renal failure
Weak recommendation that in patients with severe impairments of renal function (<30 mL/min) opioids should be used with caution. The opioid of first choice should be fentanyl of buprenorphine.

Paracetamol and NSAIDs in addition to step III opioids
Weak recommendation to add NSAIDs to step III opioids to improve analgesia or reduce the opioid dose.

Weak recommendation that paracetamol should be preferred to NSAIDs in combination with step III opioids.

Adjuvant drugs for neuropathic pain
Strong recommendation that amitriptyline or gabapentin should be considered for patients with neuropathic cancer pain that is only partially responsive to opioid analgesia.

Spinal route of opioid administration
Weak recommendation that spinal (epidural or intrathecal) administration of opioid analgesics in combination with local anaesthetics or clonidine should be considered.

Source
Dutch guideline "diagnosis and treatment of pain in adult cancer patients" www.oncoline.nl 2008.

Summary
An interdisciplinary panel of experts in cancer pain management prepared these guidelines. They also were peer reviewed. These guidelines were based on the best available

scientific evidence; however, research is not always available. When unavailable, recommendations were made on the recommendation of experts in that area.

Type of Evidence

A1 Meta-analysis or systematic review of at least 2 independent studies of A2 level

A2 Well-designed experimental studies

B Well-designed quasi-experimental studies, such as nonrandomized controlled, single-group pre-post, cohort, time series or matched case controlled studies

C Non-experimental studies

D Expert opinion

Conclusions based on:

- Studies of A1 level or at least two independent A2 studies with consistent results
- One study of A2 level of at least two independent studies of level B
- One study of level B or C
- Expert opinion

Conclusions and Implications

Assessment

- Use one-dimensional pain assessment tools to screen patients and to evaluate the pain management plan.
- Use multidimensional pain assessment tools in patients with a difficult pain problem.
- Include in the comprehensive pain assessment a detailed history; a psychosocial assessment; a physical examination. and a diagnostic evaluation of signs and symptoms associated with common cancer pain presentations and syndromes.
- Pain assessment is a shared responsibility of physicians, nurses and patients.
- The aim of the cancer pain treatment is a clinical relevant reduction of pain (2 points of 0-10 scale or 30% reduction), and preferably < 5.
- In the assessment and treatment of cancer-related pain a multidimensional approach is essential.

Cancer pain management

- Chemotherapy and hormonal therapy should be considered in tumours that are potentially sensitive.
- Radiation therapy should be considered in the treatment of cancer-related pain caused by the primary tumour.
- In patients with multifocal pain based on extensive osteoblastic bone metastases due to primary tumours, treatment with a radionuclide may be considered.
- Bisphosphonates should be prescribed standard in patients with multiple myeloma or with osteolytic bone metastases due to breast cancer.
- In the treatment of moderate to severe pain paracetamol can be used as a fist step.
- When paracetamol is insufficient an opioid could be added
- Non-selective NSAIDs, whether or not in combination with paracetamol and/or opioids, should be considered.
- Oral cannabinoids is not recommended.
- WHO step II opioids are not recommended.

- WHO step III opioids (morphine, fentanyl, oxycodon or hydromorphone) are the opioids of choice for patients with moderate to severe pain. Methadone should only be used by experienced professionals.
- For background pain, oral formulations should be prescribed slow-release.
- In patients receiving step III opioids who do not achieve adequate analgesia and have side-effects that are severe, unmanageable might benefit from switching to an alternative opioid.
- WHO step III opioids should be given orally or transdermally.
- Intravenous/ subcutaneous administration should be used for opioid titration when rapid pain control is needed.
- The rectal route of administration should be used only as a second choice.
- The opioid treatment can be assessed in reaching the equilibrium situatie after four to five times the half-life of the opioid. For oral opioids is mostly after 24 hrs, and trandermal fentanyl after 48hrs.
- For breakthrough pain OTFC could be used or an IR formulation of the opioid which is used around-the-clock.
- For opioid-related nausea and vomiting metoclopramide and domperidon are the first choice drugs.
- Laxatives should be routinely prescribed for the management or prophylaxis op opioid-induced constipation.
- In patients with CNS symptoms an opioid rotation should be considered.
- In patients with neuropathic cancer-related pain gabapentin, pregabalin and tricyclic antidepressants are the drugs of choice.
- In patients with mixed pain syndrome WHO step III opioids are the first choice analgesics.
- Spinal (epidural or intrathecal) administration of opioid analgesics in combination with local anaesthetics or clonidine should be considered when oral or transdermal opioid have insufficient analgesics effect.

Non-pharmacological interventions

- It is plausible that classical massage will reduce pain.
- Relaxation whether or not in combination with specialized psycho-social support could be considered in addition to other pain reducing therapies.
- Patients and their relatives should be adequately educated and instructed according to pain and analgesics.

Elderly

- In elderly who have cancer should, in addition to pain assessment, also Mini Mental Status Examination performed.
- In elderly with serious cognitive problems the Facial Action

Coding System (FACS) could be used for pain assessment.
- For WHO step I paracetamol is the first choice, NSAIDs should be avoided.

Source

Kurzanleitung zur Tumorschmerztherapie
http://dgss.org/neu/aktumorschmerz.asp
www.dgss.org/uploards/media/kurzanleitung tumorschmerz2.pdf

Summary

- Basic principles
- WHO-Pain ladder and pharmacologic therapy
- Provision of narcotic substances, legal aspects in German context (Versorgung mit Betäubungsmitteln / Aspekte der BtMVV)
- Symptom control
- Invasive und further methods
- Antineoplastic and interventional-supportive therapy to treat pain
- Palliative care and Hospice
- Psychooncology

Source

Nationaler Expertenstandard: Schmerzmanagement in der Pflege bei akuten oder tumorbedingten chronischen Schmerzen
Deutsches Netzwerk für Qualitätsentwicklung in der Pflege (Ed.). (2005). Expertenstandard Schmerzmanagement in der Pflege: bei akuten und tumorbedingten chronischen Schmerzen [Expert nursing guidelines for pain management: For patients with acute and tumorassociated chronic pain]. Osnabrück: DNQP.

Summary

National expert pain management guidelines which were developed via consensus conferences. Include: assessment and documentation; nurses contribution to pain treatment: application of analgesic medication, assessment, prophylaxis and treatment of side effects; application of alternative methods; patient education and self-management support.

Conclusions and Implications

Defintions in the Glossar do not match with definitions in the ONS papers Chapter 1.


ONS®
Oncology Nursing Society


EUROPEAN ONCOLOGY
NURSING SOCIETY


European Partnership
Action Against Cancer