



Swedish Naprapathy Congress

“Redefining Neck Pain A New Conceptual Model”

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WHO Collaborating Centre for
Neurotrauma Prevention, Management
& Rehabilitation



BONE AND JOINT DECADE 2000-2010 TASK FORCE ON NECK PAIN AND ITS ASSOCIATED DISORDERS



**A New Conceptual Model of
Neck Pain:
Linking Onset, Course and Care**





The Bone and Joint Decade 2000-2010



Bone and Joint Decade 2000-2010

- Endorsed by the **United Nations** on November 30, 1999
- Formally launched at the **WHO headquarters** on January 13, 2000, in Geneva
- International **Steering Committee** of 13 members with headquarters in Lund, Sweden.
- **National networks** in 97 countries
- Endorsed by the **governments** of 61 countries
- Hundreds of **participating professional organizations**



Bone and Joint Decade 2000-2010

The Goal for the Bone and Joint Decade is to **improve the health-related quality of life** for people with musculo-skeletal disorders throughout the world. The Bone and Joint Decade will do this through the following aims:

- To **reduce the social and financial cost** of musculo-skeletal disorders to society
- To **improve prevention, diagnosis and treatment** for all patients
- To **advance research** on prevention and treatment
- **To empower patients to make decisions about their care**



Why do we need Task Forces and Evidence Based Guidelines for Neck Pain?

10 Leading Causes of Lost Work Days



Drus et al health Affairs, 2002; 21:105-111

1. Back Problems
2. Mood disorders
3. Motor vehicle trauma
4. Acute respiratory infection
5. Joint problems
6. Pulmonary disease
7. Asthma
8. Diabetes
9. Ischemic heart disease
10. Peripheral vascular disease

10 Most Costly Medical Conditions in the US



Drus et al *health Affairs*, 2002; 21:105-111

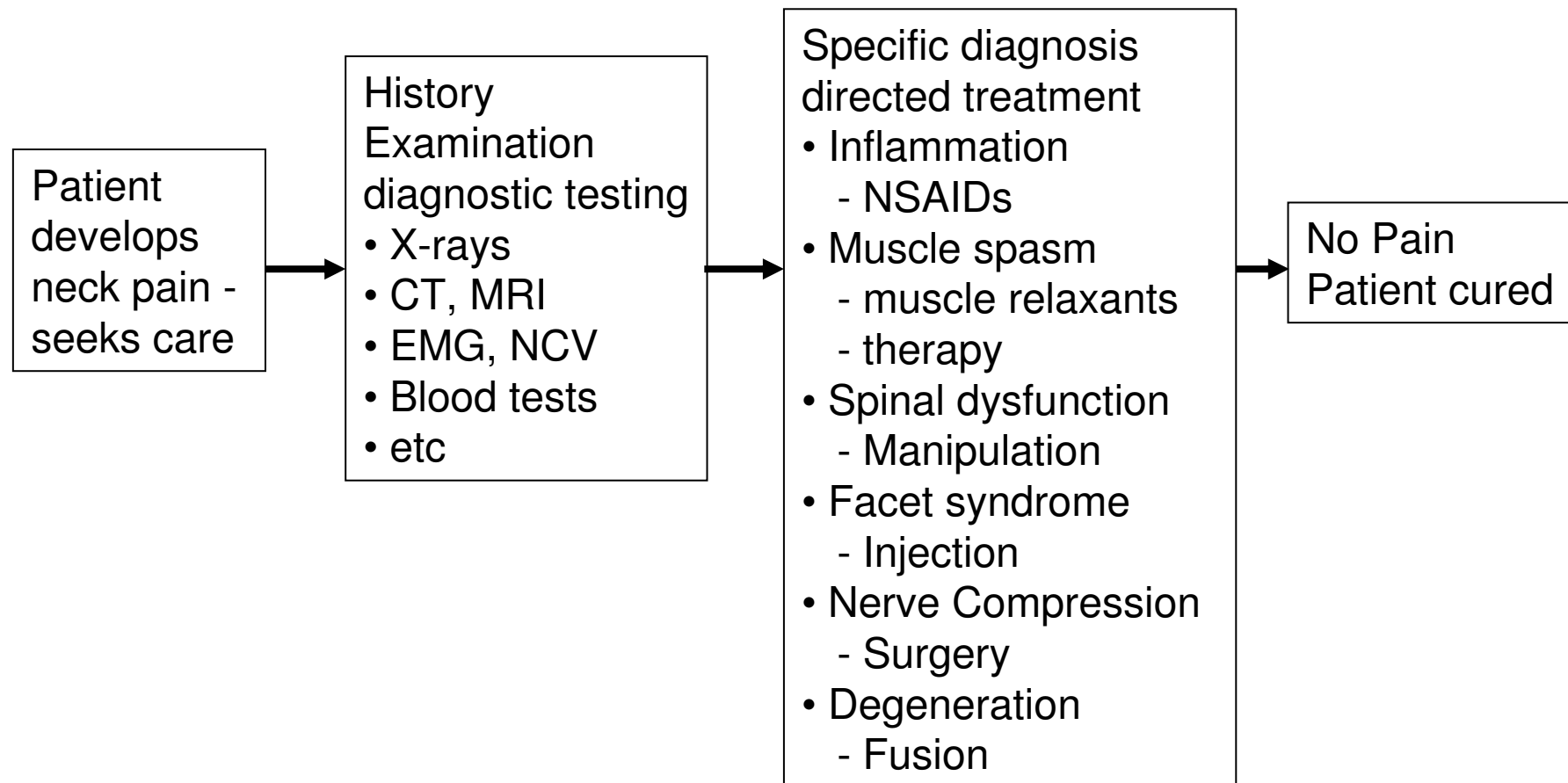
1. Ischemic Heart Disease
2. Motor Vehicle Trauma
3. Acute Respiratory Infection
4. Joint Problems
5. Hypertension
6. Back Problems
7. Mood Disorders
8. Diabetes
9. Cerebrovascular Disorders
10. Cardiac Dysrhythmias

20th Century Definition of Neck Pain

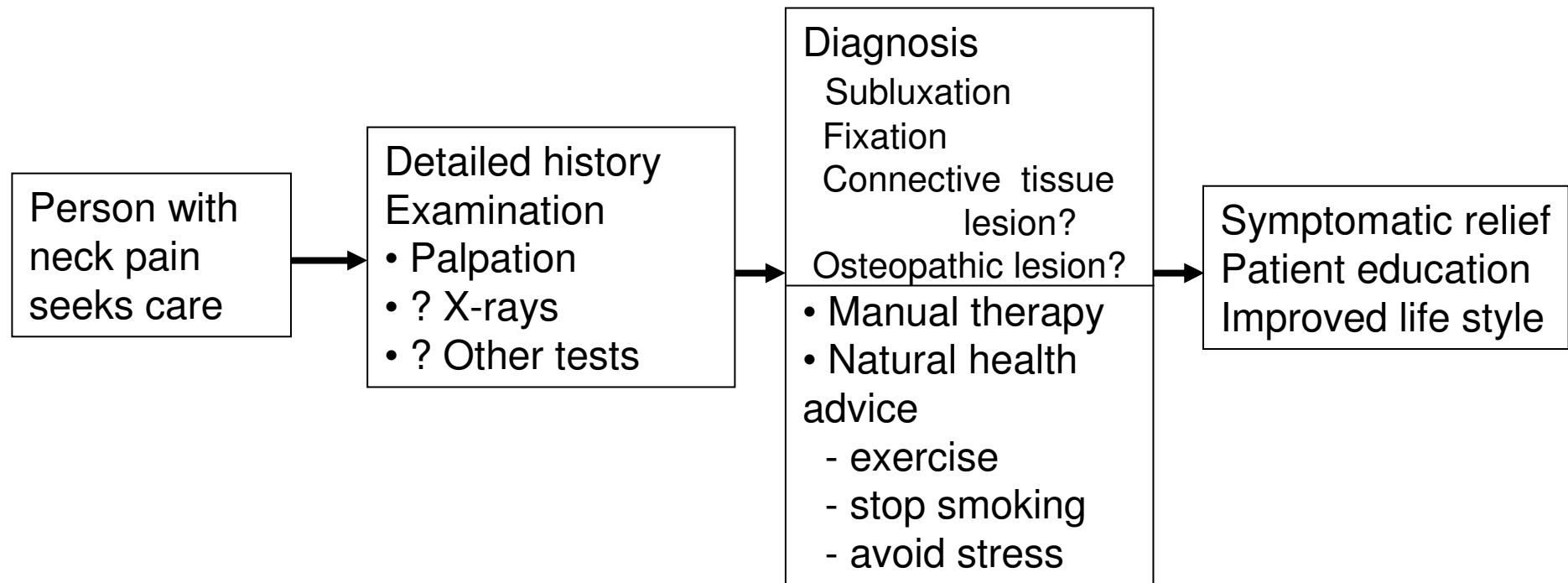


- Neck pain is a disease
- The painful lesion can be isolated by examination and testing
- Treatments can be directed to the spinal lesion
- If properly applied treatment will cure the patient with neck pain

The Twentieth Century Clinical Model of Managing Neck Management of Neck Pain



The Traditional Manual Therapy Clinical Model of Managing Neck Management of Neck Pain



Failure of Current Clinical Model to Impact the Problem

- Suffering
 - 40-71% prevalence of neck pain in society
 - 2-11% interferes with activity
 - Increase in the number of traffic collision claims
- Cost
 - 2 million car collision injury claims (\$8,5 billion) (IIHS)
- Conflict
 - Litigation, conflicting medical opinion, utilization review
- Ignorance
 - Lack of consensus on diagnostic techniques
 - Lack of consensus on treatment approaches
 - Lack of consensus on risks and prognosis
 - Patient demands based on news reports and advertising

Redefining Neck pain

The Bone and Joint Decade 2000-2010 Task force
on Neck Pain and Its Associated Disorders



Scott Haldeman DC, MD, PhD, FRCP(C) – President
J. David Cassidy DC, PhD, Dr Med Sci – Scientific Secretary
Linda J. Carroll PhD – Scientific Secretary
Åke Nygren DDS, MD, PhD, Vice-President
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Paul Peloso MD, MSc, FRCP(C)
Gabrielle van der Velde, DC, PhD (Candidate) Authors



Multidisciplinary Representation

- Clinical – Neurology, Chiropractic, Orthopedic Surgery, Physical Therapy, Psychology, Rheumatology, Internal Medicine, Pain Management, PM & R
- Scientific – Epidemiology, Biostatistics, Scientific Methodology, Health Economics
- Patient Advocate
- Industry



International Institutional Affiliation

- The Karolinska Institutet and the WHO Collaborating Center for Neurotrauma - Stockholm, Sweden
- University of Alberta - Edmonton, Canada
- University of Toronto - Toronto, Canada
- The University Health Network - Toronto, Canada
- UCLA School of Public Health - Los Angeles, USA
- New York University - New York, USA
- Institute for Work and Health - Toronto, Ontario
- University of Bordeaux - Bordeaux, France

Widespread Professional Sponsorship



-
- Canadian Arthritis Association
 - North American Spine Society
 - Japan Spine Research Society
 - Spine Society of Europe
 - American Physical Therapy Association
 - World Federation of Chiropractic
 - American Back Society
 - International Society of Physical Rehabilitation and Rehabilitation
 - Canadian Institute for the Relief of Pain and disability (CIRPD)
 - American College of Occupational and Environmental Medicine
 - American Academy of Osteopathy

Diffuse Financial Support



- **Insurance Companies**

- National Chiropractic Mutual Insurance Company (USA)
- Canadian Chiropractic Protective Association (Canada)
- State Farm Insurance Company (USA)
- Insurance Bureau of Canada
- Lansforsakringar Wass (Sweden)

- **Government**

- Ontario Ministry of Health – Occupational Health Study & Decision Analysis Study (Canada)
- Government of Saskatchewan – Saskatchewan Health (Canada)

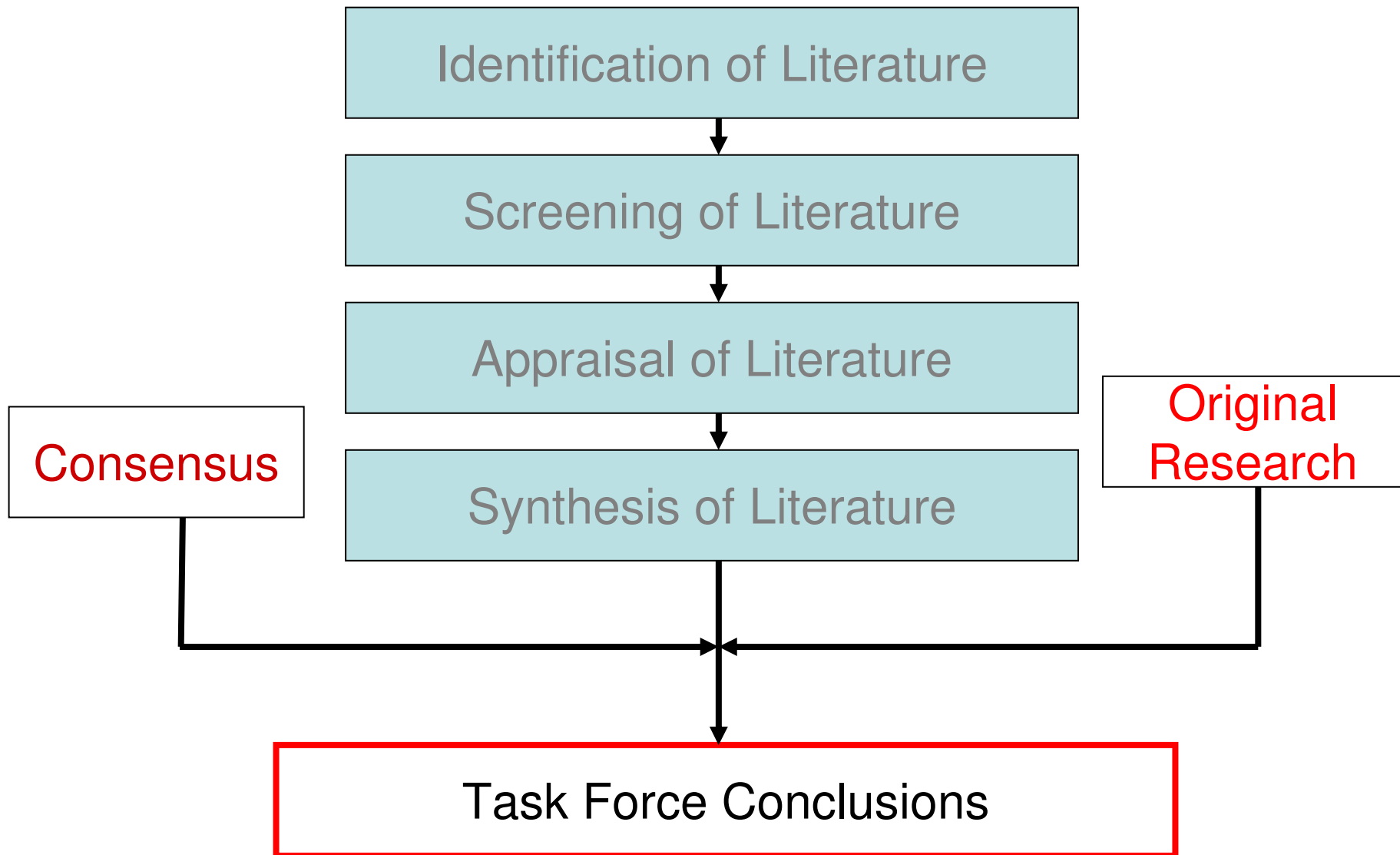
- **Industry and Foundations**

- Jalan Pacific Inc. (Brazil)
- Amgen (USA)
- Flinn Foundation, Arizona, (USA)

- **Professional Societies**

- North American Spine Association
- College of Physicians and Surgeons of Ontario – in kind (Canada)
- Japan Spine Research Society (Japan)
- Chiropractic Society of Saskatchewan (Canada)
- American Physical Therapy Association (USA)

Overview: Best Evidence Synthesis



Reviews



- 31,878 citations
- 1203 reviewed
- 552 admissible papers
 - Diagnosis: 95 admissible, 274 reviewed
 - Intervention: 170 admissible, 359 reviewed
 - Prognosis: 70 admissible, 226 reviewed
 - Risk: 249 admissible, 469 reviewed

Best Evidence Synthesis Incidence



- Most people can expect to experience neck pain
- A smaller percentage will find that neck pain interferes with their lives
- A smaller percentage will develop radiculopathy
- A very small number of people will present with serious pathology - trauma, myelopathy, infection, tumour, systemic inflammatory disorders

Best Evidence Synthesis Prognosis



- Neck Pain is influenced by multiple prognostic factors
 - genetic, demographic factors
 - Comorbidities – general health
 - Psychological – family support, social network, coping
 - Recreational – sports, exercise
 - workplace & work type - psychological factors
 - traffic injury
 - health care – can increase disability or give relief
 - Compensation - legal factors,
 - socio-political – example - paying for specific treatments

Best Evidence Synthesis Diagnosis



- **Fractures and red flags** can be reasonably diagnosed with clinical examination and imaging
- **Radiculopathy** can be reasonably diagnosed by clinical examination and testing
- The **source of neck pain** without radiculopathy cannot be reliably determined
- **Clinical examination** such as ROM and palpation **do not isolate the source of pain** and have not been shown to influence outcomes from treatment
- **Testing** such imaging, electrodiagnosis, facet injections, discography have **not** been shown to be of clinical value in patients with axial neck pain
- **Function questionnaires** are reliable in determining **impact of neck pain** in a patient and the prognosis with or without treatment

Best Evidence Synthesis Treatment



- A number of **non-surgical treatments** appeared to be more beneficial than 'usual care', sham or alternative interventions **but none of the active treatments were clearly superior** in the short- or long-term.
- **Educational videos, manipulation and/or mobilization, and exercises, low-level laser therapy,** and perhaps **acupuncture** appeared to be of benefit in relieving neck pain.
- **Epidural injections and open surgical** may be of value in the treatment of **cervical radiculopathy**
- **Surgery and injection therapies** for axial neck pain without radiculopathy or serious underlying pathology is **not supported by current evidence.**

Two-fold Purpose for establishing a new conceptual model



- to provide an integrated framework for linking the epidemiology of neck pain with its management.
- to help organize and interpret existing knowledge, and highlight gaps in the current literature.

Development



-
- 2000 (original proposal):
 - division into Risk, Prognosis, Diagnosis and Treatment
 - focus on risk and prognostic factors
 - 2004
 - link with International Classification of Functioning Disability and Health (ICF)
 - grouping of factors, study phases
 - 2006
 - simplified model based on feedback from Advisory
 - focus on affected people's options

Premises



- Primary perspective of interest is that of **persons** with neck pain or who are at risk.
- The course of neck pain is best described as **episodes**.
- The onset and course of neck pain are affected by **multiple factors**.
- The management and subsequent course depends on the **options** available.
- The impact of neck pain can be described within various **domains**.
- **Linkages** between factors and impacts can occur in multiple directions.

Assembling The Model



Questions



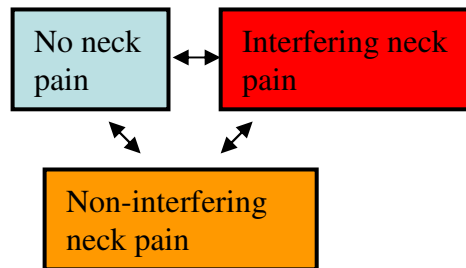
The person with neck pain faces the following questions:

- 1. How should I care for this pain?*
- 2. Should I change the things I do (participation)?*
- 3. Should I (can I) file a claim to access financial benefits?*

No neck
pain

Environment / Context

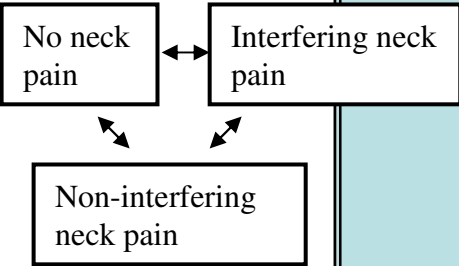
Factors: *Demographic and Socioeconomic; Prior Health/Prior Pain/Comorbidities; Collision/ Workplace; Psychological and Social; Compensation/Laws/Societal; Genetics; Health Behaviors; Cultural.*



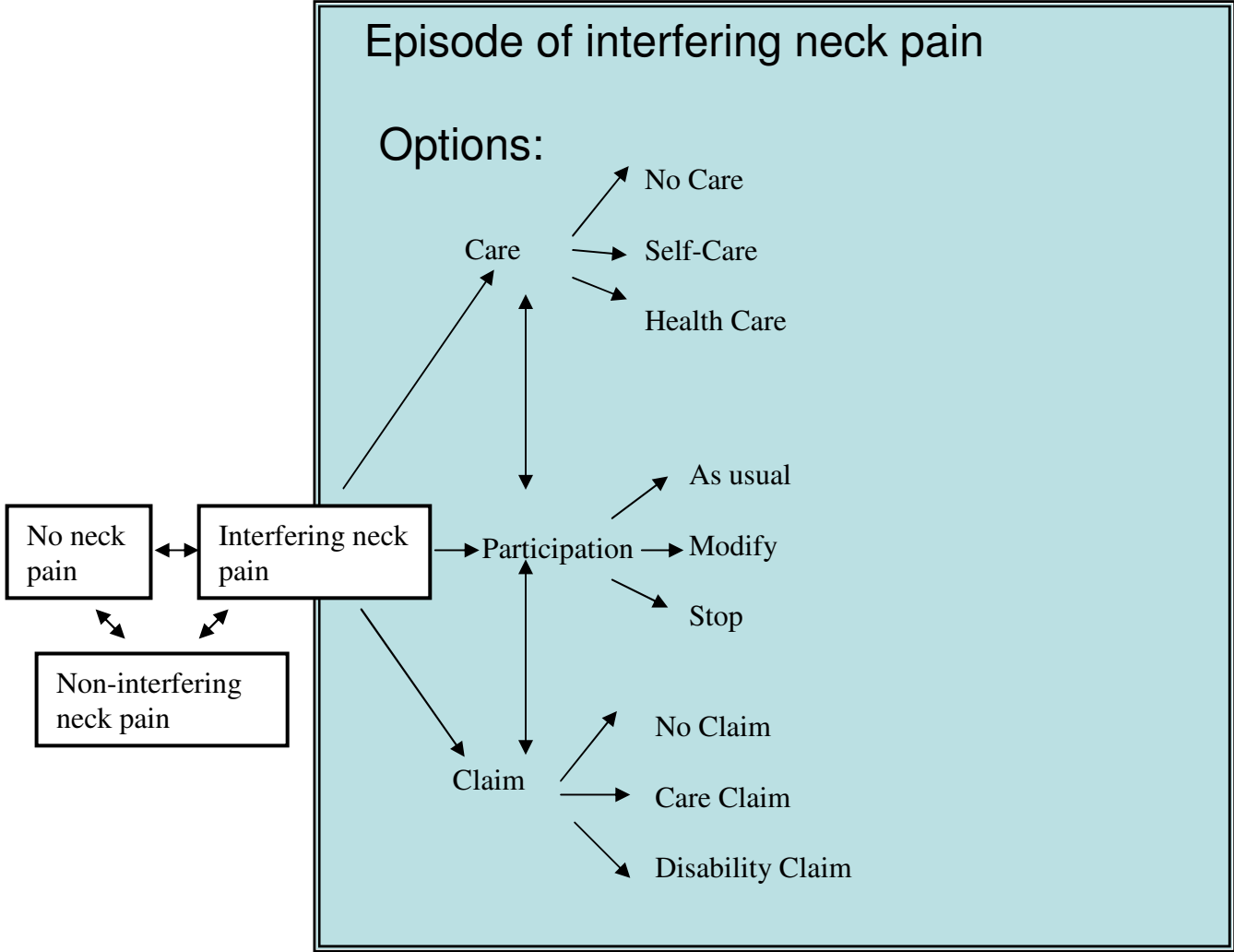
Factors: *Demographic and Socioeconomic; Prior Health/Prior Pain/Comorbidities; Collision/ Workplace; Psychological and Social; Compensation/Laws/Societal; Genetics; Health Behaviors; Cultural.*

Episode of interfering neck pain

Interfering neck pain: the presence of neck pain and/or an associated disorder is elicited from individuals, and it causes the person to seek health care, file a claim for neck pain and/or the person states that the pain results in activity or participation restrictions.



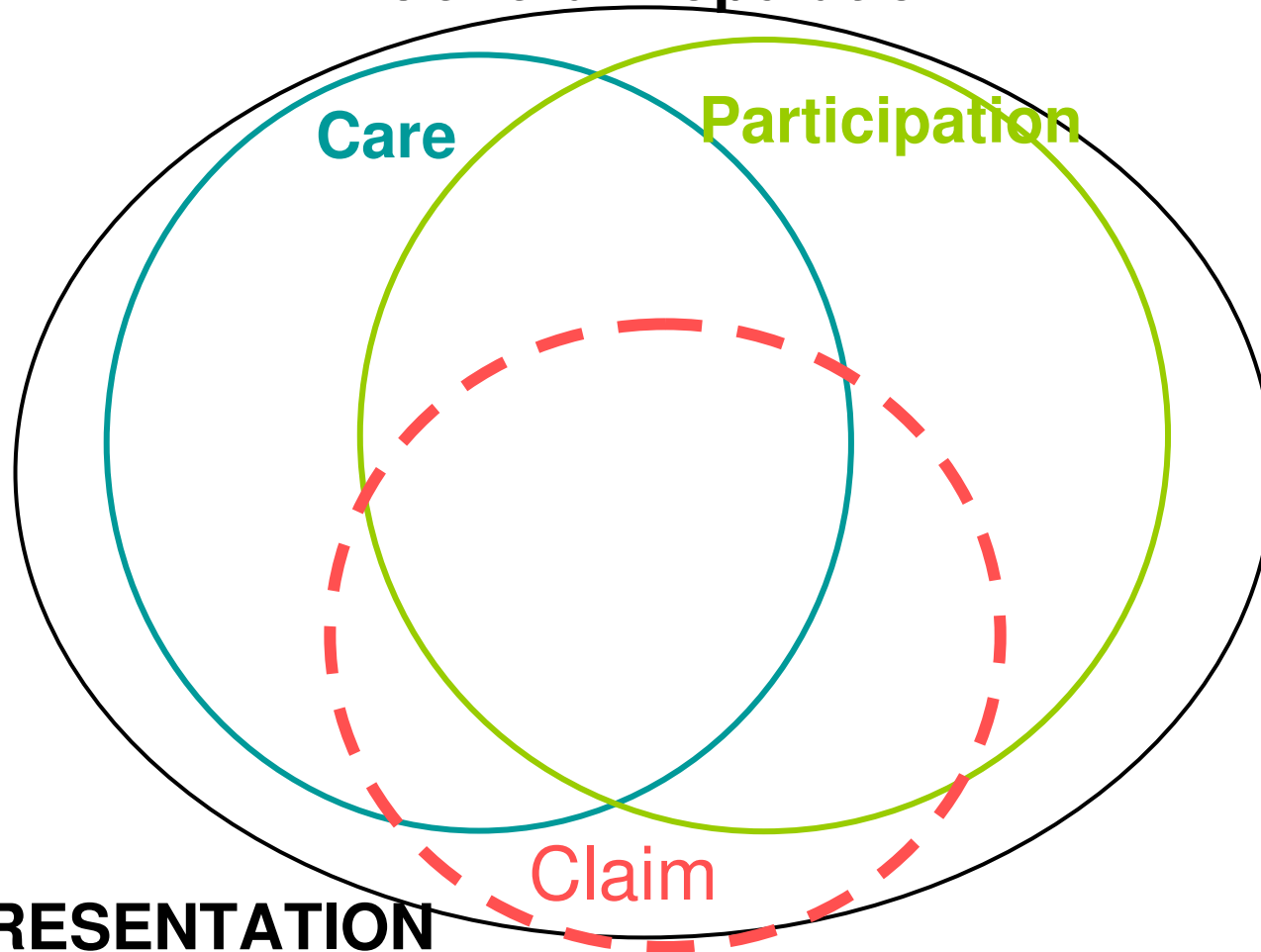
Factors: *Demographic and Socioeconomic; Prior Health/Prior Pain/Comorbidities; Collision/ Workplace; Psychological and Social; Compensation/Laws/Societal; Genetics; Health Behaviors; Cultural.*



Organization of Findings

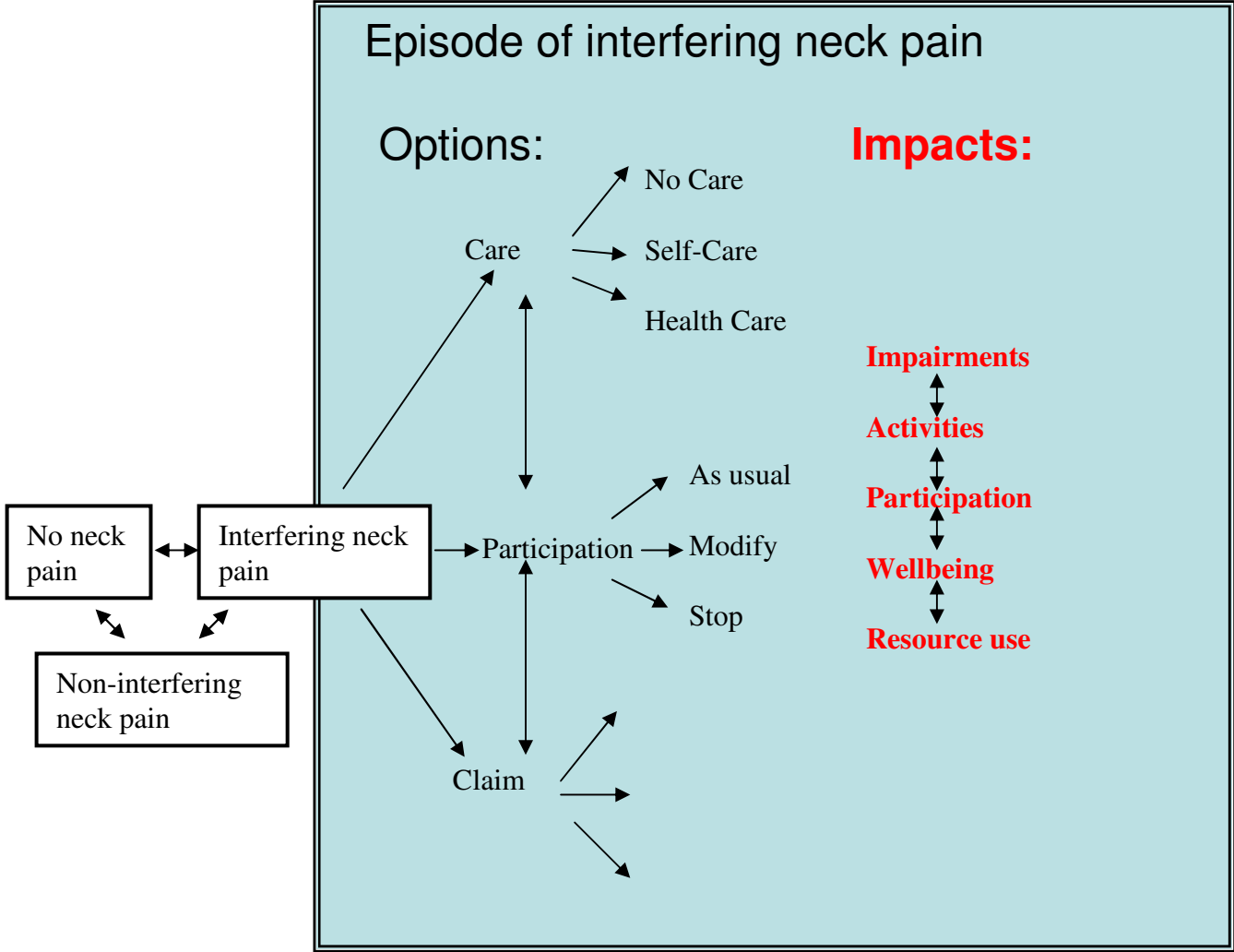


General Population



THIS PRESENTATION

Factors: *Demographic and Socioeconomic; Prior Health/Prior Pain/Comorbidities; Collision/ Workplace; Psychological and Social; Compensation/Laws/Societal; Genetics; Health Behaviors; Cultural.*

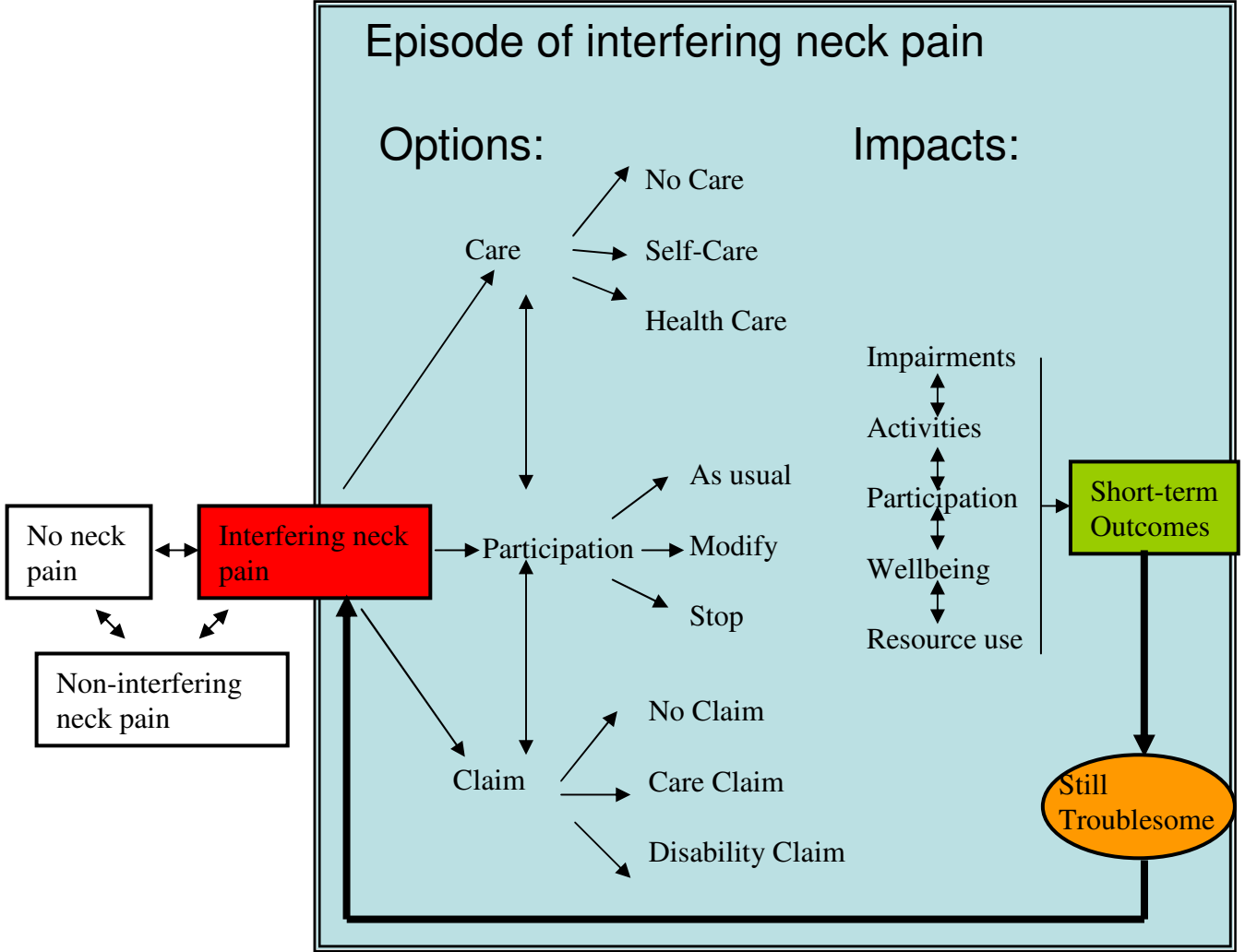


Impacts and outcomes

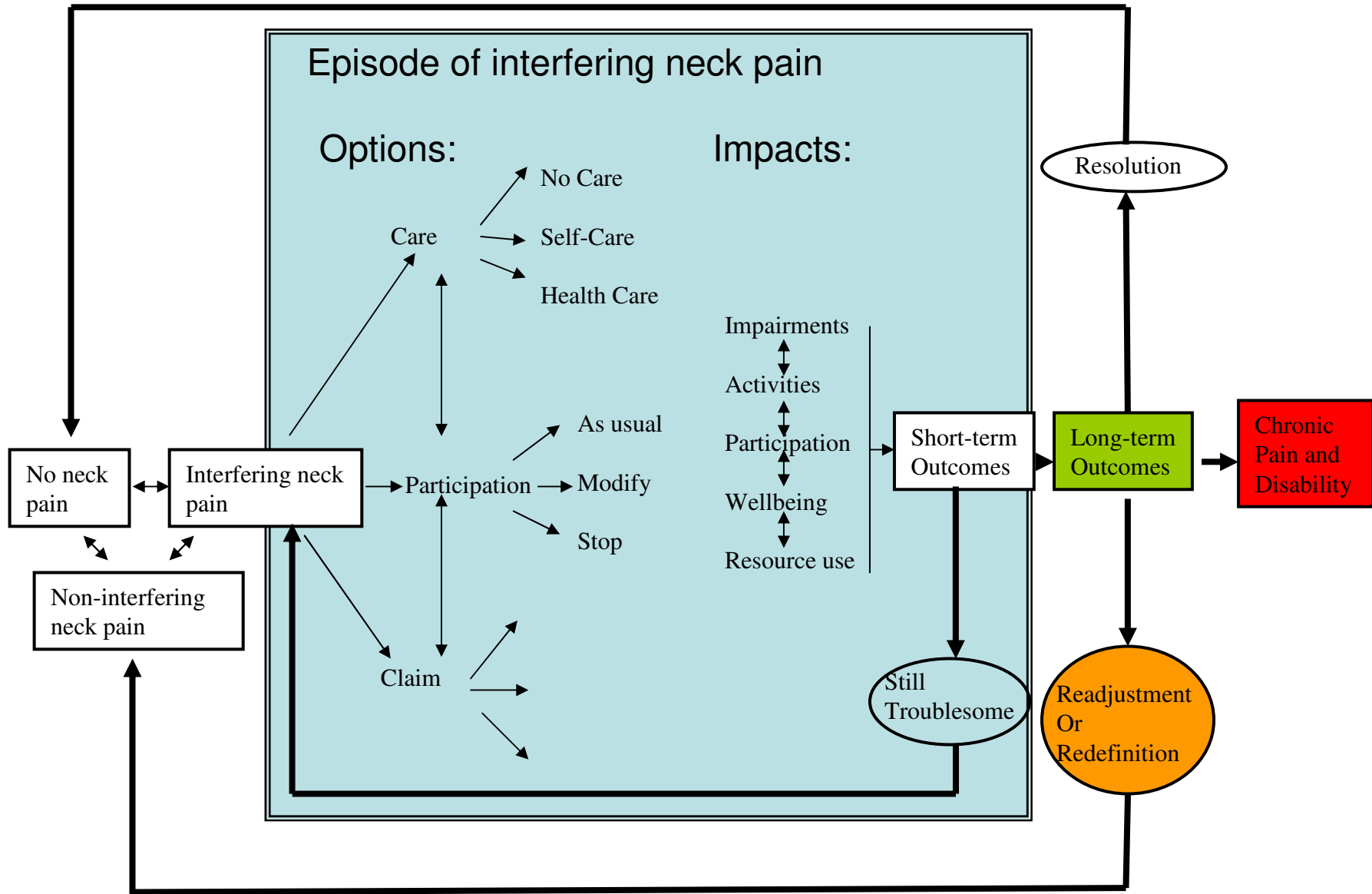


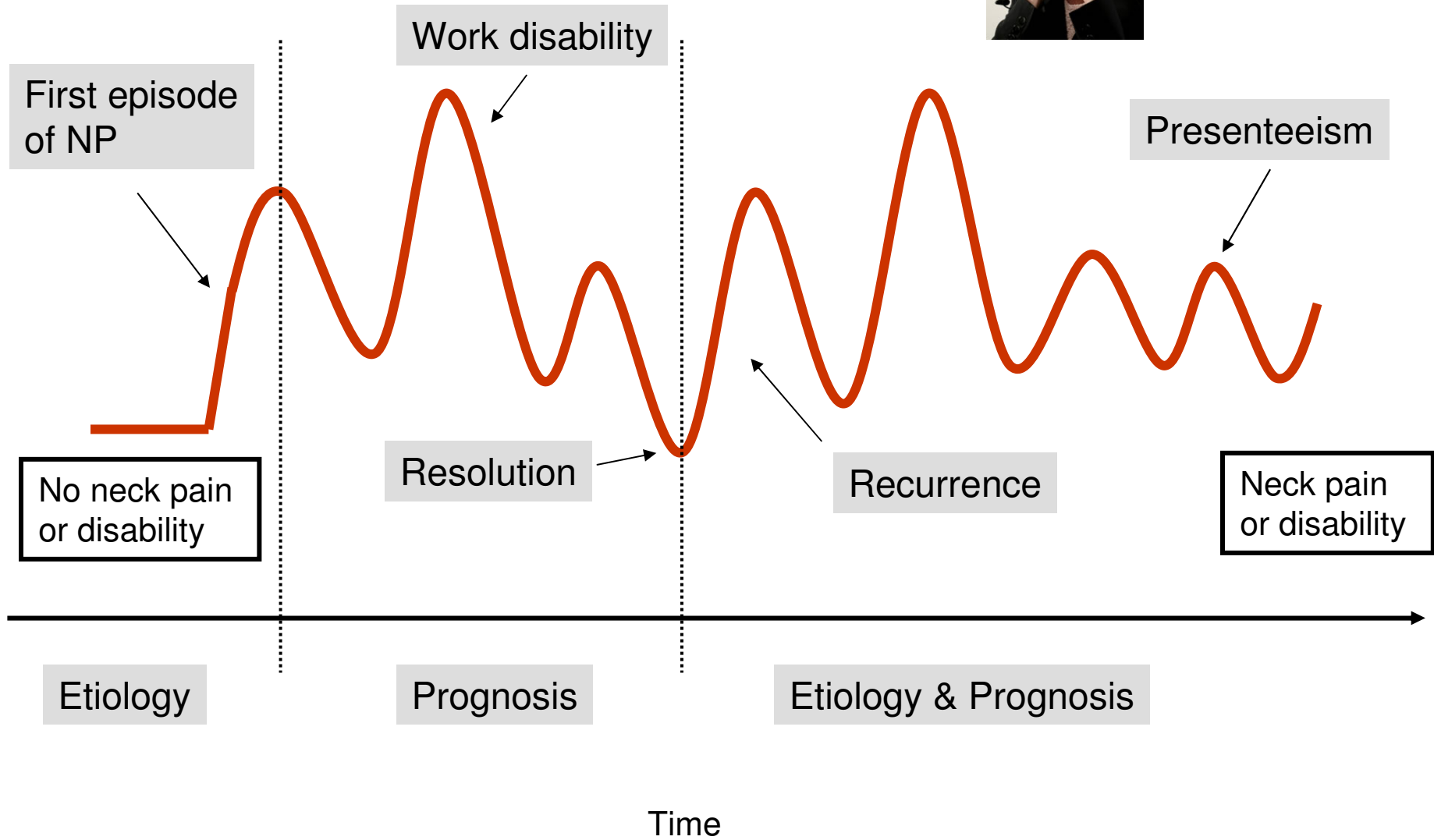
-
- Impact on five domains (modified from ICF):
 - impairments (e.g. pain, decreased motion)
 - activity limitations
 - participation restrictions
 - subjective wellbeing
 - resource utilization
 - Short-term outcomes refer to changes of the above (disappearance, increase, persistence, decrease).
 - Long term outcomes described as resolution, readjustment, re-definition, disability (Beaton et al).

Factors: *Demographic and Socioeconomic; Prior Health/Prior Pain/Comorbidities; Collision/ Workplace; Psychological and Social; Compensation/Laws/Societal; Genetics; Health Behaviors; Cultural.*

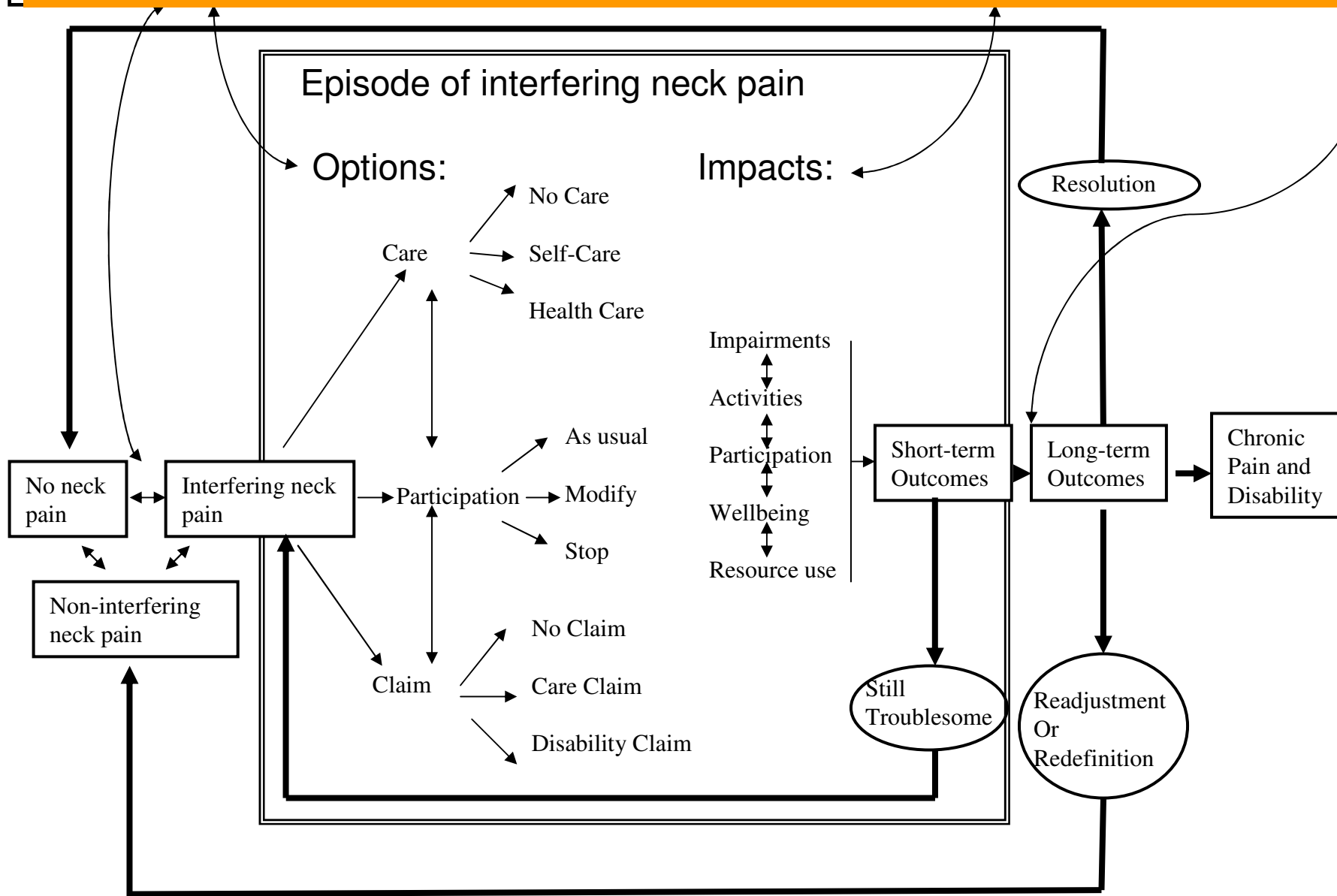


Factors: *Demographic and Socioeconomic; Prior Health/Prior Pain/Comorbidities; Collision/ Workplace; Psychological and Social; Compensation/Laws/Societal; Genetics; Health Behaviors; Cultural.*





Factors: *Demographic and Socioeconomic; Prior Health/Prior Pain/Comorbidities; Collision/ Workplace; Psychological and Social; Compensation/Laws/Societal; Genetics; Health Behaviors; Cultural.*



Clinical Neck Pain Grades



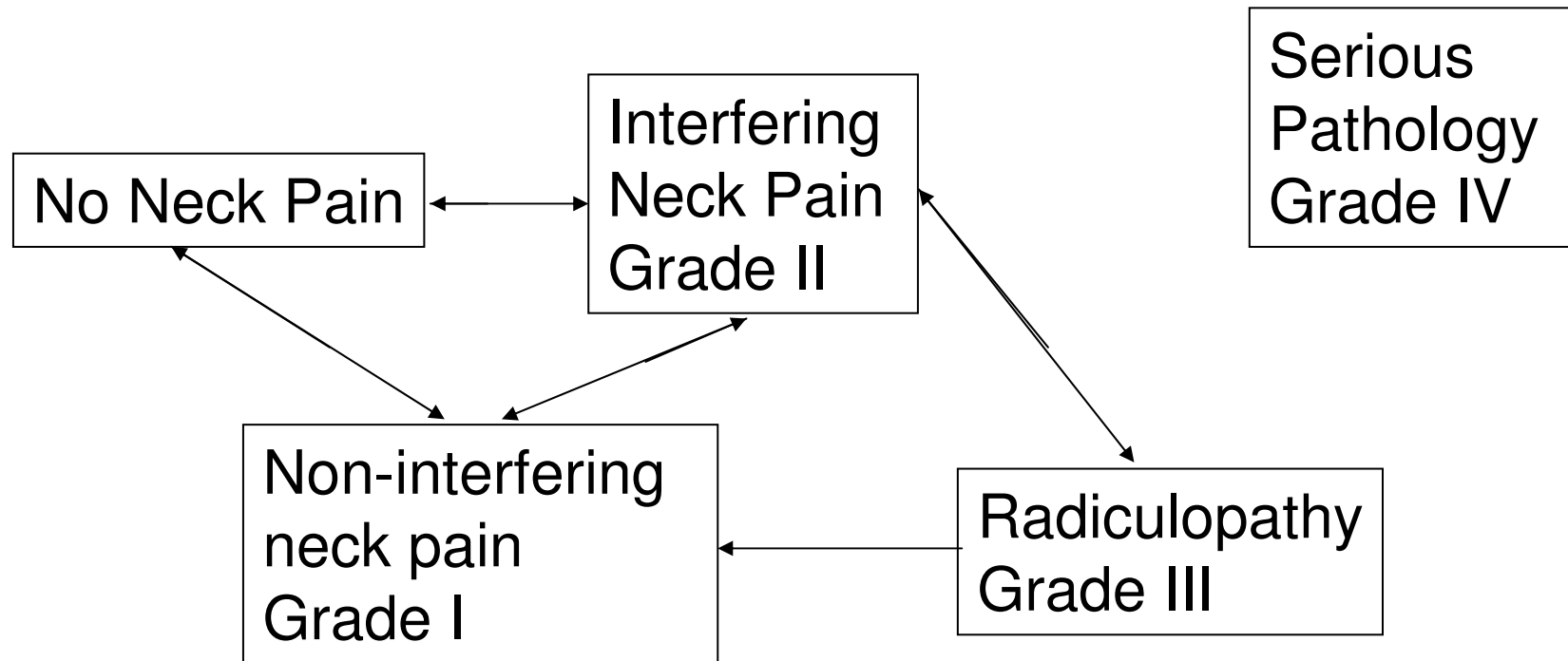
- **Grade I** (no signs of pathology and little interference with daily activities)
- **Grade II** (no signs of pathology, but significant interference with daily activities)
- **Grade III** (neurological signs of nerve compression)
- **Grade IV** (signs of major pathology)

Conclusions

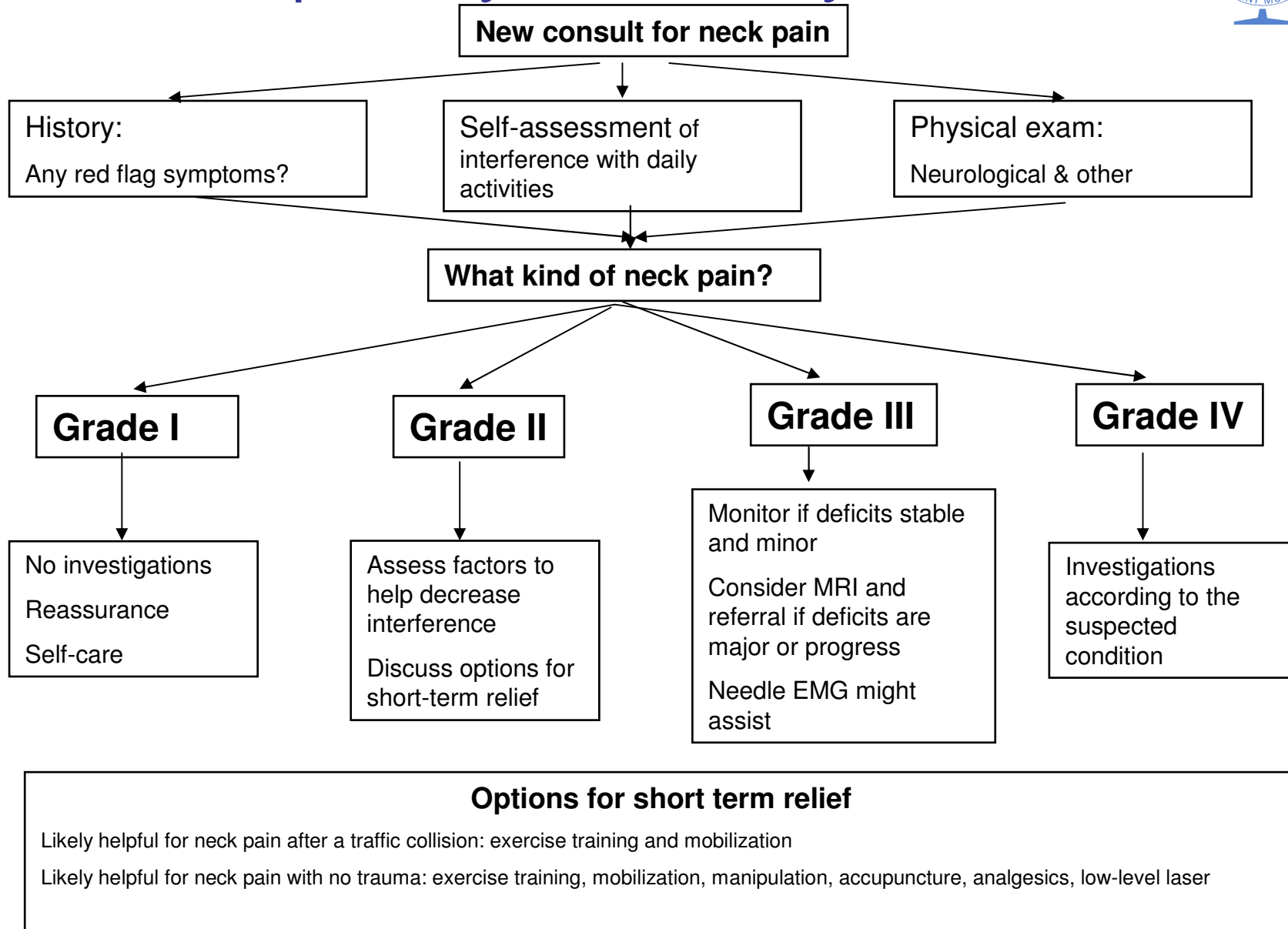


- The proposed model:
 - was used to **interpret the scientific evidence**
 - is centered on the **person with neck pain** or at risk for neck pain
 - describes neck pain as an **episodic occurrence**
 - **outlines options**, choices and consequences
 - defines **short- and long-term** impacts
 - describes **multiple factors** that affect neck pain
 - includes a **five-axis classification** of neck pain studies
 - might be used to frame and **inform decisions**

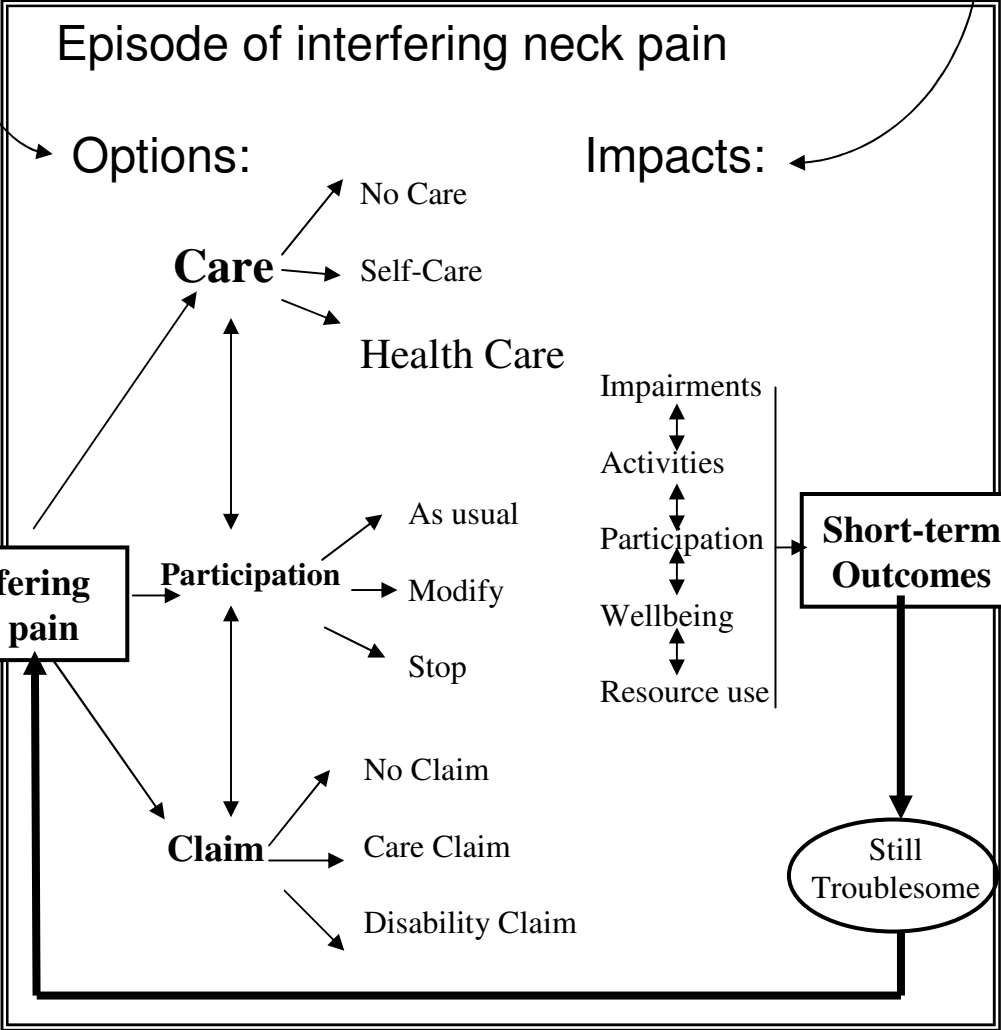
Conceptual Model for the Clinician



Clinical approach to neck pain in primary ambulatory care



Factors: genetic, demographic, comorbidities, psychological, family, recreational, workplace & work, social network, traffic injury, health care, compensation, legal factors, socio-political



No neck pain

Interfering neck pain

Non-interfering neck pain

Short-term Outcomes

Long-term Outcomes

Chronic Pain and Disability

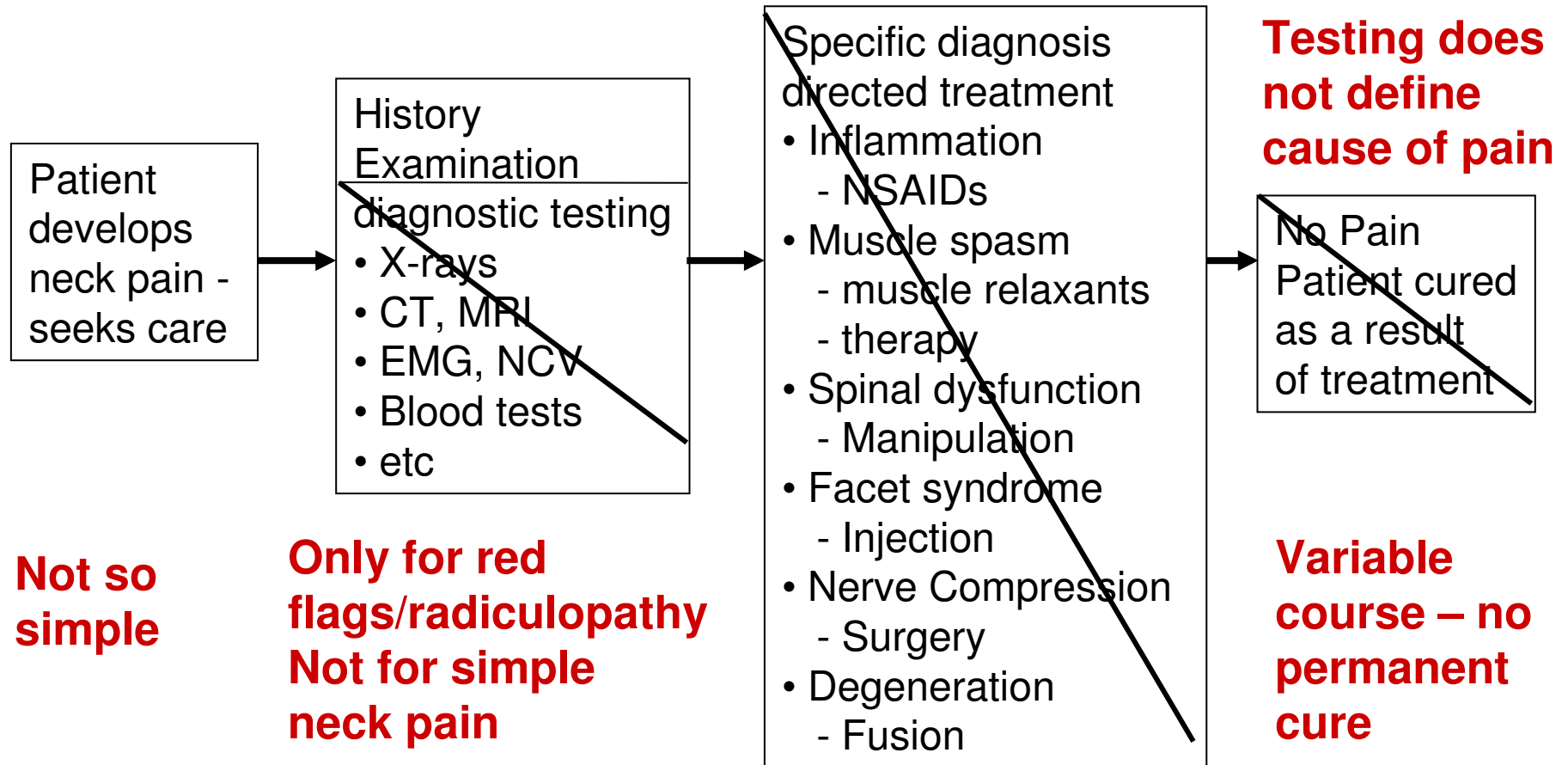
Resolution

Still Troublesome

Readjustment Or Redefinition

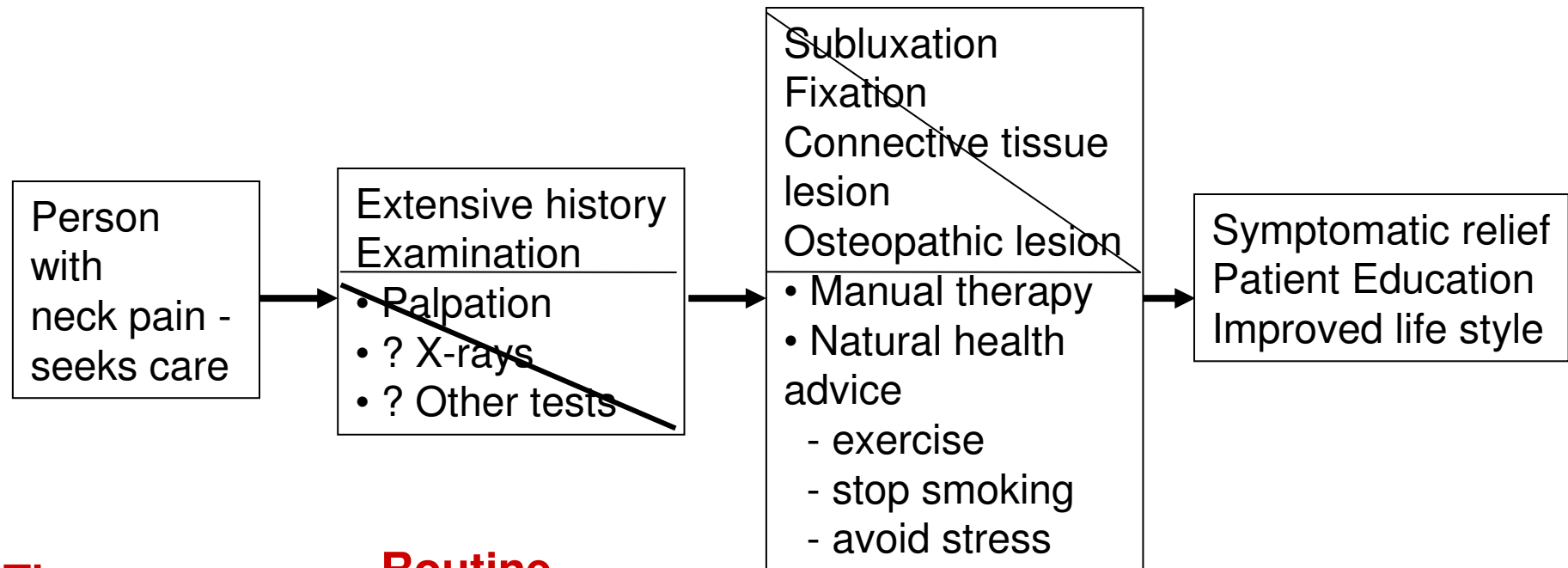
Redefining Neck Pain

The Classical Treatment Model



Redefining Cervical Spine Problems

Traditional Manual Therapy Treatment Model



The person and their environment is important

Routine x-rays and testing – not helpful

We cannot define offending lesion clinically

Consistent with the evidence

The Health Care Team



- Primary contact clinician (chiropractor, naprapath, family physician)
 - Examination, screening
 - Symptomatic relief, education
- The secondary health care clinician (neurologist, surgeon)
 - For diagnosis of grade IV disorders
- The scientists (Epidemiologist)
 - Update our understanding of risk and prognostic factors
- The policy makers
 - Modify insurance policies, government and legal factors
- The person with neck pain
 - Understand the nature of their pain
 - Understand factors that influence their pain and what they can expect
 - Make reasonable and informed decisions about their care
 - Avoid excessive expectations and demands

Bone and Joint Decade 2000-2010



The Goal: To improve the health- related quality of life for people with musculo-skeletal disorders throughout the world.

Aims:

- To reduce the social and financial cost of musculo-skeletal disorders to society
- To improve prevention, diagnosis and treatment for all patients
- To advance research on prevention and treatment
- **To empower patients to make decisions about their care**

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An international journal for the study of the spine

In This Issue:

- A Best Evidence Synthesis on Neck Pain: Findings From The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders

Scott Haldeman, Linda J. Carroll, J. David Cassidy, and the Scientific Secretariat, Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders

See complete Table of Contents inside.

Bone
and Joint
DECADE
2002 - USA - 2011



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 Wolters Kluwer
Health

Lippincott
Williams & Wilkins

Neck Pain Task Force

European Spine Journal



**The Bone and Joint Decade
2000–2010 Task Force on Neck
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Authors:
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and the Scientific Secretariat, Bone and
Joint Decade 2000–2010 Task Force on
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Brazilian Spine Society
SILACO (Sociedad IberoLatinoamericana de Columna)
Dutch Spine Society
South African Spine Society
Turkish Spine Society
GEER (Grupo de Estudio de Enfermedades del Raquis)
G.I.S. (Italian Spine Society)
Czech Spine Surgery Society
Austrian Spine Society



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NECK PAIN TASK FORCE
SPECIAL SUPPLEMENT



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Message to Clinicians



- Avoid the temptation to diagnose “the cause” of neck pain (including subluxation/connective tissue lesion/fixation etc.)
- Avoid ordering expensive testing
- Avoid excessive claims or prolonged treatment
- Understand the risk and prognostic factors
- Understand the risks and benefits of all treatment options

Message to Clinicians



- Spend time to listen to and educate patients
- Remember the roots of chiropractic/naprapathy - encouraging a healthy life style – there is a basis for this approach
- There is an opportunity to be the neck pain expert
- Be caring for people with neck pain – they are coming to you for understanding and help



New Paradigm

“Empowering people to make informed decisions about their care”

Goals of the Bone and Joint Decade 2001-2010



Thank You