Diffuse RSI

DWP IIAC Cm6868 July 2006.
Work-related upper limb disorders

The Industrial Injuries Advisory Council has given detailed consideration of the prescription of work-related upper limb disorders (PDA 4 to PDA12). Minor modifications are suggested. Other diagnoses were considered e.g. fibromyalgia but there was insufficient evidence on which to base new proposals. Non-specific arm pain does not meet the requirement that there be a positive diagnosis, as opposed to a diagnosis by exclusion.

Views on several disorders could be informative for the determination of liability issues.

The Industrial Injuries Advisory Council's review of work-related upper limb disorders has investigated prescription of cramp of the hand or forearm (PD A4), beat hand (A5), beat elbow (A7), traumatic inflammation of the tendons of the hand or forearm, or of the associated tendon sheaths (A8) and carpal tunnel syndrome (A12), epicondylitis, shoulder tendonitis and fibromyalgia. Beat knee (A6) was also investigated as part of the review of the prescribed beat conditions. The investigation was assisted by literature review and an expert workshop. A draft of this report was made available for a 3 month on-line consultation.

In 2004/5 an estimated 375,000 people in Great Britain reported a work related musculoskeletal disorder of the upper limbs or neck. The number is two orders of magnitude higher than the number of occupational compensation claims, indicating the need to move carefully when setting precedents here.

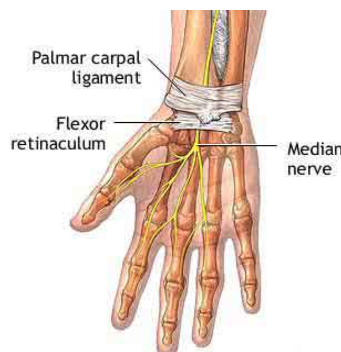
It is also estimated that there are 165 different disease labels that could be applied to upper limb disorders. Gathering sufficient evidence of clear reliable diagnostic methods, causation, risk estimates and exposure measurement would be very difficult for most of these; research tends to focus on around a dozen of them.

Industrial Injuries Disablement Benefit (IIDB) only operates once disability exceeds a 14% threshold; minor temporary ailments would not be recognised by this scheme.

Disease which are not specific to work exposure, e.g. carpal tunnel syndrome, can only be prescribed if work is found to more than double the risk of disease. In this respect the IIDB scheme imitates the standards used in civil law.

Carpal Tunnel Syndrome (CTS)

CTS occurs when the median nerve is compressed at the wrist in a canal known as the carpal tunnel.



From: http://www.drfoot.co.uk/wrist_pain/wrist_anatomy.htm

The median nerve may become compressed if the contents of the canal swell (e.g. through thickening of inflamed tendons or because of hormonal factors, fluid retention during pregnancy or menopause, rheumatoid arthritis, the development of a cyst or tumour in the canal), or the bony architecture becomes disturbed (e.g. fractures, congenital disorders). Women are more likely than men to develop CTS. The condition is quite common in the general population.

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Current prescription of CTS requires work with hand held vibratory tools. Symptoms should coincide with the periods when such work is undertaken, not incident afterwards.

IIAC consider that repetitive flexing and extending of the wrist should be added to the prescription of CTS:

> *"A reasonable choice [for the exposure schedule], based upon a conservative reading of the research evidence, might be repeated bending and/or flexing of the wrist (every 30 seconds or more often) for at least 20 hours per week".*

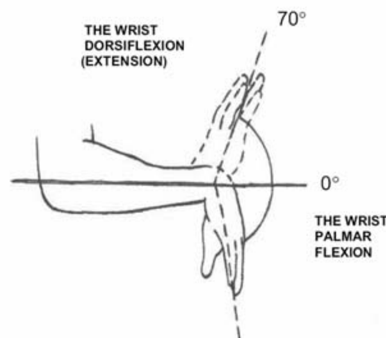
The case should be able to show that such work was undertaken for:

> *at least 12 months in aggregate in the 24 months prior to the onset of symptoms.*

The case for prescription of forceful gripping and, use of computer mouse equipment was not supported. However, regular use of forceful grip was thought to double the risk of CTS but prescription of exposure would be too unreliable.

Comment on CTS
Diagnosis of CTS is usually uncontroversial.

The textual description of flexible extension and flexion of the wrist seems to us to miss an important detail; force. Without force or work done by the tendons in the carpal tunnel the likelihood of localised swelling seems to us to be rather low. There is a range of motion (~ ± 20°) of the wrist which requires very little by way of force. Force increases rapidly beyond that point and is greater if the fingers are extended in wrist extension and flexed in wrist flexion. The evidence base is not strong on the required degree of flexion but several leading commentators have supported the requirement of forceful flexion as part of the picture of pathogenesis. IIAC suggest that flexion and extension to 70° or beyond be regarded as potentially causal:



It is not immediately obvious why prescription would require both extension and flexion, this seems to us to set the bar quite high. The cycle time requirement seems to set quite a low bar.

The lack of prescription for computer mouse work would seem to us to be justified by the evidence but contradicts insurance practice in other jurisdictions.

Epicondylitis

Lateral epicondylitis (tennis elbow)
The tissues within 2cm to 3cm distally and 1cm proximally from the lateral epicondyle become painful and tender to light pressure.

Symptoms may arise from unaccustomed, forceful, repetitive use of the muscles that extend the fingers and wrist. However, many patients have these symptoms without a recognisable precipitative activity. Pain may persist for months if not dealt with and in some people pain 'spreads' to other parts of the arm. People respond to pain in a number of different ways, some quite disabling. Studies of the painful tissues have failed to show the presence of tissue damage.

Medial epicondylitis (golfers elbow)
Equivalent to tennis elbow but the site of tenderness is where the flexor muscles attach to the medial epicondyle.

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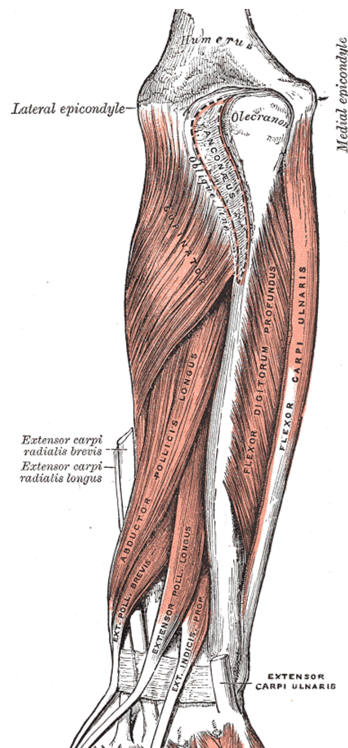

From: http://www.bartleby.com/107/illus419.html

IIAC concluded that there is insufficient evidence at present to recommend prescription for either form of epicondylitis.

Comment on epicondylitis
This is probably a fair reflection of the evidence but it seems inconsistent with the new prescription for CTS where the requirements for prescription are very similar to the causes of epicondylitis. Diagnosis of epicondylitis is usually uncontroversial but the implied impairment is quite variable. Any pain condition (without tissue damage) which persists beyond a few weeks of cessation of exposure would be hard to fit into the IIDB scheme.

Tenosynovitis

This is an inflammation of the tendon sheath (synovium). It is distinct from Tendonitis and Peritendonitis but often the terms are used interchangeably, reducing the value of scientific research. In practice the industrial injuries disablement benefit scheme does not make this distinction; PDA8 is described as:

> *Traumatic inflammation of the tendons of the hand or forearm, or of the associated tendon sheaths.*

And is caused by:

> *Manual labour, or frequent or repeated movements of the hand or wrist.*

Comment on tenosynovitis (A8)
The diagnosis and work prescription are vague and will probably rely on temporality when deciding the validity of compensation claims.

Bursitis (beat conditions)

The term 'beat' refers broadly to occupational bursitis (inflammation or infection of a bursa) and/or cellulitis (inflammation or infection of the deeper layers of the skin and subcutaneous tissues). The term is rarely used in non-occupational clinical practice and is not widely understood. Infection is usually called infection and is treated as such.
The current terms of prescription cover those with beat disorders who engage in manual labour that causes severe or prolonged friction or pressure local to the affected area.

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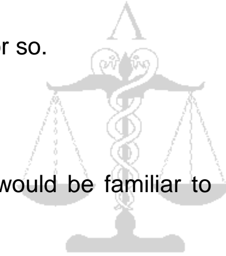
The scientific literature is particularly weak on the subject of beat hand and beat elbow. Beat knee was reasonably well studied for floor and carpet layers.

> *The Council feels that it remains appropriate to prescribe for this group of conditions with the current coverage unchanged, but that the terms 'beat hand', 'beat knee' and 'beat elbow', could be removed from the Schedule without loss of clarity.*

Comment on beat conditions
Such conditions should respond well to medical care; disability may last for a week or so.



Cramp of the hand or forearm (PD A4)

The prescription was developed in response writer's cramp but the presentation would be familiar to other painful cramp conditions.

There are two types of cramp condition:

- Simple writer's cramp is specific to just one activity e.g. writing, playing a musical instrument. Within a short period of task commencement the muscles seize up and the hand is kept in a rigid non-neutral posture.
- In dystonic cramp any use of the hand triggers the cramp reaction.

Dystonia is an involuntary sustained muscle contraction causing abnormal postures. It is not usually painful, but impedes task performance.

The research evidence is particularly weak but diagnosis and occupational cause is assisted by asking the patient to begin the suspect work task and observing what happens. Dystonia should be difficult to imitate consistently.

> *The Council finds insufficient new evidence to remove A4 (cramp of the hand or forearm due to repetitive movements) from the current prescription list.*

Shoulder Tendonitis

Tendonitis of the shoulder is an inflammation of the rotator cuff and/or biceps tendon. It often results from a tendon being pinched by surrounding structures (impingement syndrome of the shoulder). Common symptoms include pain and tenderness around the shoulder, and inability to hold the arm in certain positions. It is distinct from 'Frozen Shoulder'.

> *According to the expert workshop, there is only limited consensus on approaches to diagnosis and case definition. Hence, shoulder tendonitis was not considered within the scope of the commissioned review.*

Repetitive Strain Injury

There is very little consensus on the diagnostic utility of this term; it could include any number of differential diagnoses and seems to exclude any injury that does not involve repetition (a forceful static posture could result in the same set of symptoms). There is no agreement as to pathology or tests that can be applied.

For the purposes of prescription, a diagnosis by exclusion is not appropriate. Non specific arm pain may well be a cause of considerable difficulty for people at work but until a specific condition is identified it will not fit into this compensation scheme.

Fibromyalgia (FM)

This is a chronic illness characterised by musculoskeletal aches, (severe) pains and soft tissue tenderness in more than one quadrant of the body. The back is nearly always involved. Other areas frequently reported are the neck, shoulders and hands. Fatigue and poor sleep are reported in a high proportion of cases.

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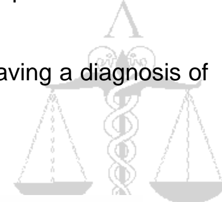
There are no specific tests for FM and no objective causes. Cases are often (completely) disabled by the condition but a significant minority, with the same symptoms, shrug it off.

Comment on FM
Several authors have concluded that their research shows that mild injury is an effective cause of FM. These conclusions are usually based on retrospective analysis. Very few prospective studies have been done but these tend to show no causal association (unless vulnerability to FM also predicts increased risk of being involved in an accident).



Focal FM is a very confused concept but has been before the courts. The point of having a diagnosis of FM is to describe the generalised nature of the pain condition.

IIAC Recommendations

Disease number	Name of disease or injury	Type of job
A4	Task-specific focal dystonia.	Prolonged periods of handwriting, typing or other repetitive movements of the fingers, hand or arm.
A5	Subcutaneous cellulitis of the hand.	Manual labour causing severe or prolonged friction or pressure on the hand.
A6	Bursitis or subcutaneous cellulitis arising at or about the knee due to severe or prolonged external friction or pressure at or about the knee.	Manual labour causing severe or prolonged external friction or pressure at or about the knee.
A7	Bursitis or subcutaneous cellulitis arising at or about the elbow due to severe or prolonged external friction or pressure at or about the elbow.	Manual labour causing severe or prolonged external friction or pressure at or about the elbow.
A8	Traumatic inflammation of the tendons of the hand or forearm, or of the associated tendon sheaths.	Manual labour, or frequent or repeated movements of the hand or wrist.
A12	Carpal tunnel syndrome.	a) The use, at the time the symptoms first develop, of hand-held powered tools whose internal parts vibrate so as to transmit that vibration to the hand, but excluding those which are solely powered by hand; or b) Repeated palmar flexion and dorsiflexion of the wrist for at least 20 hours per week in those who have undertaken such work for at least 12 months in aggregate in the 24 months prior to the onset of symptoms.

The prescription for CTS should refer to the 70° excursion of the wrist.

In addition: Prevention
The report goes on to describe methods for the prevention of such diagnosable disorders.

This is not the remit of IIAC but the advice may be helpful to those who have not read HSE publications on prevention. The IIAC description is much more compact than anything produced by HSE and is notable for its lack of predictive, quantitative standards.

In effect the worker is used to test whether the system of work is causing discomfort, in which case the guidance suggests a number of factors that could be changed. To be effective, such an approach relies on early reporting of discomfort and rapid response. The rate of conversion from discomfort to specific injury is not high. The ability to predict, *ab initio,* which of the work conditions will result in complaints is often unclear [even when a work task is prescribed by IIAC] but the identification of problematic work conditions is much more certain once there are complaints.

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