

Guide to Work-related Low-back Diseases
Group E, item 11 of the List of Occupational Diseases

2nd December 2002

1. INTRODUCTION

The official list of occupational diseases, which is published by the National Board of Industrial Injuries (Arbejdsskadestyrelsen), names the diseases which - according to medical and technical experience - are brought about by specific influence to which certain groups of persons, through their work or working conditions, are more exposed than persons not performing the same type of work.

The Administrative Order lists the general conditions for recognising a disease as an industrial injury in accordance with the list, as well as the special conditions for recognition.

This guide deals with low-back diseases included in appendix 1 of the list, group E, item 11:

“Chronic low-back disorders involving pain ... For instance lumbago/sciatica, lumbar prolapsed disc(s) or degeneration with daily or frequent pain.”

The above low-back disorders may be recognised as work-related when the general conditions, as well as the conditions of group E, item 11, are met.

At least once every two years, the Board negotiates with the Occupational Diseases Committee the diseases that meet the conditions for inclusion in the official list of occupational diseases. In other words, the Occupational Diseases Committee takes a position on the special conditions for recognition mentioned under each group of the list.

If the special conditions of the list are met, the National Board of Industrial Injuries recognises reported diseases included in the list.

Usually, if a disease is on the list and the special conditions for recognition are **not** met, the reported disease will be turned down by the Board without submission to the Occupational Diseases Committee.

In a few cases, however, where the special conditions are not met, the Board finds that the load on the person's back was so intensive or special that the Committee should discuss the case, even though the disorder is mentioned on the list.

This also applies to low-back disorders, for which the Committee, for a number of years, has recognised other influence than heavy lifting work involving lifting of objects. The Committee's criteria for recognition of such influence are described in chapter 4.

This guide is first and foremost for the Board's decision makers and medical consultants, but is meant also to benefit trade unions, insurance companies, and – not least – general practitioners and medical specialists who report disorders and issue medical certificates.

Chapter 2 describes the general conditions for recognising a disease as an industrial injury on the basis of the list.

Chapter 3 describes the special conditions, with regard to the nature and intensity of workloads, for recognition of low-back disorders based on the list.

Chapter 4 describes the Committee's practice for recognition of low-back disorders that do not meet the special requirements for recognition of low-back disorders based on the list.

Chapter 5 describes the requirements for documentation of the load.

Chapter 6 describes the Board's assessment of back-loading lifting work.

Chapter 7 describes the disorders that can be recognised, as well as pre-existing or competitive disorders. Furthermore it describes the subjective symptoms and objective medical findings that need to exist.

Chapter 8 describes the Board's overall assessment of the information of the case.

2. GENERAL CONDITIONS

The diseases mentioned in the list can only be recognised when the general conditions are met. Under section 1 of the list the following general conditions for recognition apply:

- In respect of intensity and duration, the harmful exposure must correspond to the exposure for which a causal relationship has been established between the exposure and the disease.

- The pathological picture must correspond to the pathological picture for which a causal relationship has been established between the exposure and the disease.

- There must be no information available of any factors that make it probable beyond reasonable doubt that the disease was caused by non-occupational circumstances.

The exposures required for recognition of a disease are specified under each group.

Only when the general conditions are met and there is documentation of a load corresponding to the description under group E, item 11, can the low-back disorder be presumed to be work-related.

Group E, item 11 lists the special conditions for recognition of a low-back disorder as an occupational disease.

3. SPECIAL CONDITIONS

3.1. Group E, item 11(a) of the list

It is possible to recognise a low-back disorder as an occupational disease when -

- the person has been doing back-loading lifting work, involving lifting of objects, for 8-10 years. Basically the person must have lifted a total of 8-10 tonnes or more per day, and each burden must have been heavy.

The requirements with regard to duration, total daily quantity lifted and weight of objects may be reduced, see chapter 3.2.

Only actual lifts and upward pulls are included in the assessment of the work performed. Thus pushing and horizontal pulling of objects should not be taken into account.

3.1.1. Duration of lifting work

In principle, there must have been 8-10 fairly consecutive years of work, at the normal employment rate, in the trade in question.

3.1.2. Daily quantity lifted

In principle, there must have been a daily lifting quantity of 8-10 tonnes. There is no requirement for a daily quantity of 8-10 tonnes for each single working day. The requirement should be understood as an average for a prolonged period of time (weeks).

Driving a wheelbarrow can to some extent be included in the calculation of the intensity requirements with regard to lifting work.

3.1.3. The weight of each lift

The weight of the individual burden needs to have been 50 kg for men and 35 kg for women.

When several persons lift together, it is not possible to make a mathematical reduction of the weight of the burden, the load being different for each person taking part in the lift. In such situations a specific assessment of the load has to be made.

3.2. Reduction factors

There may be special circumstances connected with the lifting work that allow a reduction in the requirements to the duration, the total daily quantity lifted, and the weight of each lift.

These special circumstances are referred to below as reduction factors.

3.2.1. Reduction in the duration of lifting work

If very large quantities are lifted, i.e. more than 15 tonnes per day, the 8-to-10-year requirement may be reduced, but never to under 3-4 years.

3.2.2. Reduction in the total daily quantity lifted

The requirement for a daily lifting quantity of 8-10 tonnes in principle means about 10 tonnes. This lifting quantity may be reduced to 8 tonnes when -

- the lifting has been performed for more than 8-10 years;
- the person performing the lifts is a woman, or a particularly slight man, or a young person;
- the burdens are lifted and carried a long way; or
- there are at least 3-4 reduction factors, and the individual burden weighs 15-18 kg or more.

Furthermore, it is possible to reduce the requirement for a total daily lifting quantity of 8-10 tonnes in the event of -

- an unusually long period of back-loading work, substantially in excess of 10 years;
- particular stress conditions, for instance lifting work under cramped conditions or work in fishing (see 3.3);
- lifting work in connection with steel bending in a stooping posture (see 4.1. on steel bending).

The total daily lifting quantity cannot be reduced to under 4-6 tonnes, however, depending on the load

conditions.

3.2.3. Reduction in the weight requirement for each lift

The weight requirement for each burden may be reduced in case of particularly awkward lifting postures.

Examples of awkward lifting postures:

- lifts above shoulder height;
- more than one lift per minute;
- lifts involving a twisted lower back;
- lifts in a stooping posture; or
- lifts at more than half arm's length.

Depending on the circumstances, the weight requirement for each lift may be reduced to 8 kg for men and 5 kg for women.

The weight of each lift is not mathematically reduced for each of the above factors, but is based on an overall assessment of the performance of the work.

3.3. Lifting work in the fishing industry

In fishing, the requirements with regard to the total daily lifting quantity are reduced. This is because lifting work in fishing takes place under particularly difficult circumstances, such as bad weather, work on deck, long working hours, and rare breaks, and involves other stressful work functions like pulling of nets and trawls in a stooping working posture.

In principle, there must have been a total daily lifting quantity of about 6 tonnes. The lifting quantity may be reduced further on special grounds. This may be the case when some of the individual lifts are very heavy.

There must have been 8-10 fairly consecutive years of work in fishing, more or less corresponding to the number of days at sea normal to the fishing industry.

3.4. Group E, item 11(b) of the List of Occupational Diseases

There must have been regular lifting work for at least 8 years, extremely heavy single lifts under awkward circumstances having been part of the usual work, and there must at the same time have been a total

daily lifting quantity of not less than 3.5 tonnes.

3.4.1. Weight of each lift

An extremely heavy lift weighs 100 kg or more. One or several persons may carry out the lift. If several persons lift together, there is no mathematical reduction in the weight of the load since the burden usually is not evenly distributed.

3.4.1.1. Reduction factors

The weight requirement for each lift may be reduced to -

- 75-100 kg for men and 50-75 kg for women under the influence of one of the factors mentioned in 3.2.3.

- 50-75 kg for men and 35-50 kg for women under the influence of two of the factors mentioned in 3.2.3.

- 50 kg for men and 35 kg for women under the influence of three of the factors mentioned in 3.2.3.

3.4.2. Daily quantity lifted

A further condition is that the total daily lifting quantity, including heavy single lifts and any other lifting work, amounts to a total of at least 3.5 tonnes.

3.4.3. Duration of lifting work

There must have been regular lifting work for at least eight years, including daily, extremely heavy, single lifts carried out under extremely awkward circumstances.

3.5. Group E, item 11(c) of the list

There must have been at least 10 years of back-loading work involving care of adults or disabled children of a certain age.

Basically, there must have been back-loading work in connection with e.g. bedridden patients/residents, wheelchair users in need of care, or other groups of patients/residents in need of care, and back-loading care work equivalent to at least 20 daily patient handling tasks.

A characteristic feature of work in health care is that it is not directly comparable to other types of lifting work. It often involves combined lifting and pulling and support in working postures that can be unfavourable. To this should be added that it is work with living and unmanageable burdens that make sudden and unpredictable movements that may increase the load on the back.

An assessment of the back-loading work in health care, as described under 3.5.1, takes into account the extent of the care, the composition of patients/residents, and the number of daily patient handling tasks

(see 3.5.2.).

3.5.1. Back-loading work in health care

Work involving personal care must have been an essential part of the working day. The assessment of care intensity includes such factors as the number of wheelchair users, bedridden persons, or other groups of patients/residents in need of care, i.e. who cannot look after themselves. Furthermore, other tasks such as cleaning, shopping and nursing will be included in this assessment. Depending on their extent, the mentioned factors may indicate either dismissal or recognition of the case.

Example 1:

A social worker had worked for about 13 years in a 24-hour institution for children and young people with severe physical and mental disabilities. The social worker was attached to a unit with five residents who were in a wheelchair and required a lot of care, and three residents who were mobile, but in need of care. A lifting device was used in connection with bathing and toilet visits. When using this lifting device the person had to be placed in a special sheet, which happened by rolling or pushing them onto the sheet. According to information from the employer, the children were lifted and transferred in connection with many of the activities in which they took part. The case was recognised.

The example shows that a case can be recognised even if the amount of lifting or handling of persons is not expressly stated. In the above description, however, the care must be deemed to have involved at least 20 daily patient handling tasks.

Example 2:

A home help worked for twelve years with two to three visits per day that involved helping the patients get out of bed, go to the bathroom, and get dressed. Furthermore, one or two visits involved cleaning. Other visits during the day involved easier nursing tasks, such as the administration of medicine and help with taking off or putting on elastic stockings. The case was turned down as, according to the description, the work was not back-loading.

This example shows that a case will be turned down if, for the greater part of the day, the employee has been doing other types of work than actual health care.

3.5.2. Many daily patient handling tasks

An essential feature of the patient handling tasks to be taken into account is that there must be a certain element of lifting, the employee partly or fully lifting the weight of the patient/resident. Typically there will be an element of lifting when moving a person between for instance bed, chair, bedpan and wheelchair, or in situations where the patient/resident needs to be changed or turned in the bed, or to be lifted higher up in bed or chair. The same applies when helping a bedridden patient/resident get into a sitting position or helping them from a sitting to a standing position.

Lifting or handling or transferring a person counts a hundred per cent, even if two persons have been lifting together or appliances have been used, for instance a lift, turning sheet or turning swivel. This is because, even when employees use appliances or lift together, there will be a load on the low back in the form of a partial lift. But - as is also the case for the space conditions - the access to appliances and the number of lifts performed by two persons can be decisive in situations where the load is not quite substantial enough, the strain on the low back being a combination of the weight of the burden and the work in a stooping posture or with a twisted back. Lack of appliances, cramped space conditions and many patient handling tasks without help from others may thus contribute to qualifying the load for recognition.

Example 3:

An assistant nurse had worked for 22 years, 14 of these on night duty in a nursing home. All residents were in substantial need of care. A number of residents had to get up several times during the night to get to the bedpan and the bathroom. A number of residents were occasionally violent and restless. The space conditions were cramped and outdated, and apart from drawsheets it was not possible to use aids in the wards. There were 20 patient handling tasks per shift in the period in question. The case was recognised.

The example shows that a case may be recognised when there are at least 20 daily patient handling tasks and the work has been stressful besides, see 3.6.

Example 4:

An assistant nurse worked for 10 to 12 years in more than ten different workplaces. For about three years there were 20 patient handling tasks, whereas the number was 10 to 15 or less for the remaining part of the time. The case was turned down as there had only been three years of adequate patient handling tasks.

This example shows that, when the period was not longer than 10-12 years or the work was not unusually stressful, there had be at least 20 daily patient handling tasks throughout the whole period.

3.5.3. Reduction in the number of daily patient handling tasks

The requirement to the daily number of patient handling tasks can be reduced if the back-loading work lasted considerably longer than ten years or the circumstances of the work were unusually stressful.

Considerably longer than ten years usually means 15 years or more.

Circumstances that contribute to making work in health care particularly stressful are unpractical and restricted space conditions and lay-out of rooms, lack of appliances, the patient's or resident's inability to co-operate, or many unsupported lifts of persons.

The requirement with regard to the daily patient handling tasks cannot, however, be reduced to under 10.

Example 5:

An assistant nurse worked in the same place for 27 years and was daily in charge of four to five patients in need of care. Each of these patients was transferred three to five times a day. It was a nursing home with small wards and cramped sanitary arrangements. At the same time, hardly any appliances had been used in the first ten years of her employment. It was taken into consideration that the assistant nurse lifted or handled patients 12 to 20 times a day, and the case was recognised.

The above example shows that, if the duration of the work was long (27 years in this case), a case can be recognised, even though the daily number of patient handling tasks is not quite adequate.

Example 6:

An assistant nurse for 23 years handled less than eight persons per day in the first eight years. After that period she lifted, handled or transferred 15 persons per day, except for a period of seven years, when she handled 25 to 30 persons a day. The first eight years could not be included, but the rest of the period, combined with the fact that the low-back disorder occurred in the period when she handled 25 to 30 persons a day, led to recognition of the case.

This example shows that, even though the total period was only just 15 years, it is possible to recognise a period of less than ten years in cases where there has been a substantial load of 25 to 30 daily patient handling tasks, combined with a rather long period involving a limited load of 10 to 15 handling tasks per day.

Example 7:

The employee had been a nurse in various hospital wards for about 30 years. The primary work had been various types of nursing. The daily number of patient handling tasks had been estimated at six to eight on an average. The case was turned down.

This example shows that, even if the duration in a specific case is very long, recognition of the case requires at least ten daily patient handling tasks.

3.5.4. Duration

The requirement is a minimum of ten fairly consecutive years, comprising at least eight months of work per year.

The requirement for eight months of work per year may, for example, be met by part-time work (2/3) all year round, or eight months of full-time employment and four months out of work.

In the health care sector it is normal to have 56 hours of employment every two weeks, which is also regarded as full time.

Example 8:

An assistant nurse worked in the periods 1973-87, 1991-93, and 1994-98. The low-back disorder first occurred in 1993. It was taken into consideration that the work was very care intensive from 1973 to 1987, but in this period there was no back disorder. From 1987 to 1991 she did not work in health care. From 1991 to 1993, and from 1994 to 1998, she worked in health care again, but this time the care intensity was not quite adequate, and the period was too short. The case was turned down because the periods before and after 1987-91 could not be connected, four years being too wide a gap.

This example shows that the 10-year period has to be fairly consecutive, and the onset of the low-back disorder must not be too early in the period of back-loading work in health care.

3.6. Group E, item 11(c) of the List of Occupational Diseases

There must have been a daily exposure to whole-body vibrations for 8-10 years.

3.6.1. Vibration intensity

The work must have involved driving on an uneven surface with heavily vibrating vehicles.

The following vehicles will usually involve vibrations of the required intensity -

- caterpillar vehicles
- contractors' machines, including bulldozers, excavators, dumpers, loaders, tractor shovels
- tractors and other agricultural machinery
- forestry machines

Furthermore, the operation of trucks (understood as vehicles for lifting of loads) may involve adequate vibrations. The trucks have to be with solid rubber tyres and operated on an uneven surface.

In very particular cases, the operation of cranes may also involve the adequate vibration exposure.

However, the operation of the following vehicles (or ships) will not usually involve vibrations of an adequate intensity -

- trains
- buses
- semi-trailers
- lorries
- vans

- cars, including taxis

See appendix 2, list of vibrations in connection with the operation of various types of vehicular working tools and means of transport.

The intensity of whole-body vibrations is measured in m/s^2 transversely in three directions. Appendix 1 describes the measuring of vibrations and the correlation between vibration intensity and the daily exposure time. The highest value measured in any of the three main directions is used to assess the injury risk. The guiding norm is that there must have been a daily vibration load of 0.70-0.80 m/s^2 for a substantial part of the working day - i.e. basically 3/4 of a normal working day. This is equivalent to a daily vibration exposure (8 hours) of 0.60 m/s^2 .

A vibration intensity above this level reduces the requirement to the daily exposure time, and a daily exposure time of more than 3/4 of a normal working day reduces the requirement to the vibration strength. However, it is not possible to reduce the requirement to under 0.60 m/s^2 .

It is furthermore possible to reduce the requirement to the daily exposure time if there has been a particularly long-lasting exposure, i.e. 15 years or more. However, the requirement cannot be reduced to under half of a normal working day.

3.6.2. Duration

Basically there must have been 8-10 years of daily exposure to whole-body vibrations.

The requirement to the number of years may be reduced if the exposure has been particularly pronounced. This means that the daily vibration load has been more than 1 m/s^2 for at least 3/4 of a normal working day, which is equivalent to a daily vibration load (8 hours) of 0.80 m/s^2 .

Lack of dampening/absorption of vehicle or seat may also reduce the requirements with regard to duration.

The time requirement cannot be reduced to under 3-4 years.

4. LOADS NOT COVERED BY GROUP E, ITEM 11 OF THE LIST

Group E, item 11 deals with low-back diseases caused by heavy lifting work or whole-body vibrations, or a combination of these exposures and other harmful exposure – for example work in a fixed or stooping posture.

This means that, if lifting work or whole-body vibration has not occurred or has been limited, the low-back disorder will not be recognised under group E, item 11.

However, for a number of years the Occupational Diseases Committee has recognised harmful exposures, for example -

- steel bending in a stooping posture not involving simultaneous lifting work;
- work in a fixed working posture not involving simultaneous lifting work.

4.1. Steel bending in a stooping posture

The requirement is 8 to 10 years of strenuous work with steel bending in a stooping posture.

4.2. Work in a fixed posture

The requirement is a work function where, due to external circumstances, it is not possible to change the working posture. For instance where welders work in the bottom tanks of vessels under very cramped conditions and the welding takes place in a fixed, and sometimes extremely awkward, working posture.

The duration of this type of work has to be about eight years or more.

In addition the Committee has recognised a few cases where the person in question had an extremely stressful work function, for instance a tunnelling worker who was lying on his stomach in a narrow tunnel and digging his way.

5. DOCUMENTATION OF THE LOAD

5.1. Lifting work

There has to be documentation in each case that the work has involved lifting work, with a quantification of the daily quantity lifted and the size of each lift.

The requirement with regard to quantification of lifting work means that it is not adequate to make an estimate of the daily quantity lifted.

Therefore it is not sufficient, either, to have been working in a trade where descriptions of that trade show that it generally involves physically hard, back-loading work.

Such general descriptions may, however, support the information that is procured besides as part of the processing of the case in question.

5.2. Whole-body vibrations

There has to be documentation in each case that there have been whole-body vibrations of an intensity and duration as stated in item 3.6. The documentation requirement means that it is not sufficient to state an estimate of the vibration exposure. As far as possible, there has to be a description of the machinery/vehicles that have been used, indicating the type, year, dampening/absorption of vehicle or seat, the duration of the exposure and the vibration intensity, as well as a description of the circumstances under which the machinery was used.

If it is not possible to procure exact information of these circumstances, an estimate is made on the basis of the available information. A condition for recognition is that it can be established that there has been exposure of the intensity and duration described in 3.6.

5.3. Documentation

Typically the documentation of the individual case will consist of

- information from the injured person, perhaps supported by a report from a trade union;
- information from the employer;
- reports from the Working Environment Authority and the Occupational Health Service;
- certificates issued by medical specialists and clinics of occupational medicine, supported by specific questions ensuring that the injured person gets the opportunity to answer all relevant questions;
- information from the Labour Market Supplementary Pension Fund ("ATP"), which elucidates and shows the duration of the work – including the effective number of months per year;
- discharge letters and case sheet transcripts from hospitals and general practitioners, which elucidate and show the onset and development of the low-back disorder;
- tax and pay information documenting employment;
- information from cases pertaining to cash assistance, pensions, and rehabilitation;
- information on other types of transfer payments;
- report from the Working Environment Authority regarding the injured person's work function, following a visit to the workplace in question;
- report from the Board's travelling inspector with a view to clarifying or describing in detail the injured person's work functions;
- judicial hearing, cf. the provisions of the Administration of Justice Act, with a view to clarifying substantial disagreement between the injured person and the employer.

6. THE BOARD'S ASSESSMENT OF THE INFORMATION ON BACK-LOADING WORK

Whether or not a disorder is recognised as an industrial injury depends on an overall assessment of the

person's work exposure.

The same person may often be involved in more than one work relationship, and the lifting work may vary from job to job.

If each of the working relationships meets the requirements, but the duration of the work under one of these conditions is insufficient, all work relationships are included in the overall assessment.

This also applies where the loads of the individual work relationships are of a different nature. In that case it is a prerequisite that the loads come under the heading of one or several of five groups of lifts/loads, which are listed below:

- substantial aggregate daily lifting;
- extremely heavy single lifts;
- particular load conditions;
- exposure to whole-body vibrations;
- back-loading work.

One example of the combination of various lifting situations in which the load periods are included in the assessment as a whole, is work that involves substantial daily lifting half of the time and whole-body vibrations half of the time. It should be noted that any combination of the loads described above can be recognised if the aggregate duration is adequate.

But also in such cases the decision will depend on an overall assessment of all factors contributing to the load, according to the description of such factors back in time. Naturally the assessment takes into account the difficulty of describing conditions dating far back, and that the documentation requirement therefore must be seen as having been met, even if the description is not quite specific.

The work and load factors described and included in the assessment must apply to the injured person's main occupation.

On the one hand this means that the concept of "daily" leaves room for disregarding short-term interruptions. This applies, whether or not the interruption is due to the injured person performing, at short intervals, other types of work in the workplace, or to short periods of unemployment.

On the other hand it means that, when the periods are added up, a load on the low back deriving only from short-term and dispersed employment or seasonal work usually is not included, which may cause the case to be turned down.

7. LOW-BACK DISEASE

7.1. Which disorders may be recognised?

It has to be a permanent low-back disorder. Therefore passing discomfort, such as acute low-back pain, usually is not recognised.

The disorder has to be chronic, i.e., according to general medical experience it is not to be expected that the person in question will be cured.

This means that the following disorders may be recognised:

- lumbago (lumbar pain) with daily discomfort;
- sciatica (radiating lumbar pain) with daily discomfort;
- spondylosis (degeneration caused by lumbar osteoarthritis) with daily discomfort;
- lumbar slipped disc(s) with daily discomfort; and
- degenerative diseases (change caused by attrition) involving daily discomfort.

7.2. Competitive low-back disorders

Some disorders may lead to considerable chronic low-back pain:

- low-lying Scheuermann's disease (congenital back disorder), which causes symptoms prior to the load on the back;
- Bechterew's disease (congenital hereditary disease which may also affect the back);
- arcolysis with spondylolisthesis (displaced or fractured vertebral arch with dislocation of vertebra)
- severe idiopathic scoliosis (unknown cause); and
- asymmetric lumbar junction vertebra (congenital abnormality of the vertebral shape and joint formation).

These diseases will not be recognised as industrial injuries if a medical assessment makes it likely, beyond reasonable doubt, that the patient's current symptoms can be referred to the above disorders.

7.2.1. Competitive low-back disorders where reservations are made in connection with recognition

If the above diseases are present in addition to other disorders caused by work, a recognition will make reservations for the pre-existing disease or any future aggravation. The outcome will depend on the circumstances of the individual case, and the assessment will take into consideration the onset of the symptoms of the disease as well as the case history.

There are other low-back diseases that are not considered to be very significant if they are present at the same time as other diseases caused by work. These diseases are for instance:

- mild instances of scoliosis;
- non-symptomatic Scheuermann's disease;
- symmetric junction vertebra;
- kissing spine;
- slightly uneven length of legs, basically not more than 3 cm in a person of normal height.

7.3. Documentation of low-back disease

It has to be established, in consultation with a medical specialist, that there is a permanent disease of the low back, and where it is possible, the nature of the disease must be supported by other information on the disease.

In the description of the case history, the following information is particularly important:

- the presence of any pain;
- nature and frequency of the pain;
- onset of symptoms;
- how the pain affects the diseased patient's function

As for diagnosis, it is essential that the medical specialist diagnoses the disease as one of the following:

- lumbago/sciatica with daily symptoms; or
- lumbar slipped disk; or
- degenerative disease with daily symptoms.

7.3.1. Lumbago/sciatica

As for lumbago, there has to be a description of daily pain across the low back and, in the case of sciatica, pain radiating to one or both legs. It is essential if sitting for a long time, standing up, loading the back and/or stooping aggravates the pain.

Documentation of the early onset and development of the disease is essential.

This can for instance be done by way of information on hospitalisation, on examination by a GP or on treatment by a physiotherapist or chiropractor or medical specialist. It may also be information that the person in question has participated in a back-training programme or takes a specified type of medication. Also information on sick leave, change of tasks in the workplace, or termination of work is considered to

be relevant.

It is hard for doctors to establish objectively the presence of lumbago/sciatica caused by attrition or nerve root irritation and not associated with degeneration of the lumbar spine. In the medical certificate this is often put as "objective findings being modest".

In these cases it is essential that the medical specialist should register signs of chronic low-back problems. Such problems can be seen from information that the patient fidgets, limps, and has difficulty getting dressed or undressed, and finds it hard to mount or move on the couch.

Information that there is no kyphosis of the low back (i.e. no backward curvature of the spine while the patient is bending forward) speaks in favour of the existence of a low-back disease. This also applies where there is restricted motion of the low back, or a pain-related tightening in connection with leg lifts, or clear muscular consistency changes in the back extensors, low back or buttocks (i.e. changes to the mass of muscles as a consequence of muscular rheumatism).

7.3.2. Lumbar slipped disk

A slipped disk of the low back occurs more frequently in persons with heavy back-loading work than in persons not performing that type of work.

Normally, as opposed to the diseases described above, a slipped disk can be established by a medical examination. Such information is therefore very important in the assessment of a case.

Normally, in these cases, the pain pattern described includes information on pain radiating to other parts of the body and on the impact on nerve roots, which can be determined objectively by a neurologist.

A slipped disk may also be detected in other ways, for instance by surgery, myelography (a special type of X-ray examination with contrast substance), CT (computer tomography) scanning, or MC (magnetic computer) scanning.

7.3.3 Degeneration (= reduced function)

These changes to the lumbar spine occur more frequently with age. They do not necessarily cause back pain, but are found more frequently in persons with back-loading work.

The requirements with regard to the occurrence of pain and functional impact are the same as for lumbago/sciatica, but if X-ray examinations detect definite degenerative change, this change, together with the presence of daily back pain, will be taken as an indication of a chronic back disease.

7.4. Other significant factors when assessing the disease

It is very important to have a detailed description, partly of pain and condition as experienced by the patient (= subjective complaints), partly of the progression of the disease in the period preceding notification of the injury.

It can be said in general that the statement by the medical specialist is part of the total basis for assessing an industrial injuries case. This information is subject to the same requirements as other information on the case.

This means that, though the descriptions in the statement are taken into consideration, the conclusion can never be seen from an isolated point of view. Therefore the assessment is always seen in the light of the practice described in this guide.

7.5. Temporal correlation

A prerequisite for recognising a disease is a relevant temporal correlation between the disease and the back-loading work.

For back diseases, the relevant temporal correlation would be for the first symptoms of the disease - or in certain cases the aggravation of the existing disease - to appear some time after commencement of the back-loading work.

Depending on the load, some time is usually several years. The assessment takes into account whether there have been many daily lifts or very heavy single lifts; whether the person performing the lifts was a young person, etc. In such cases, from a medical point of view, there will be a temporal correlation between work and the development of the low-back disease, even if the first symptoms appear shortly after commencement of the back-loading work.

This also means that the disease must not have been evident as a chronic disease before the hard work was commenced. On the other hand, one previous instance of acute lumbago with complete recovery does not automatically mean that the case will be turned down.

What usually happens is that low-back pain develops gradually some years after commencement of the back-loading lifting work, and the disease is gradually aggravated, with increasing pain etc., in connection with the continued load. It is often part of the pathological picture that the disease gets acutely worse at some point. In such cases it is not particularly significant if such acute aggravation happens in connection with work or in a different situation, as long as the aggravation actually occurs in a period of back-loading work. If, for instance, the acute aggravation occurs outside working hours without being an accident, it will still be possible to link the back disease to the back-loading work.

The same applies to cases where a low-back disease already exists and there is a period of definite aggravation similar to the above.

A decisive argument against recognition will be the occurrence of a period without symptoms between termination of the back-loading work and outbreak of the disease. This applies, for instance, if a low-back disorder occurs after five years without work or five years of work involving no load on the back. This is the case irrespective of any previous work meeting the load requirements.

If the person in question has been performing back-loading work for a period of time, the disorder may be recognised if it occurs in a later period of more moderate, but still relatively heavy back-loading lifting work.

8. THE BOARD'S OVERALL ASSESSMENT OF THE INFORMATION ON THE CASE

The National Board of Industrial Injuries collects the information necessary and adequate for making a justifiable assessment and decision.

All information is included in the assessment, and the facts of each specific case are decisive for the weight attached to the various information.

The information received by the Board is protected by the criminal law provisions on misrepresentation towards public authorities. This applies regardless of the person giving the information.

Therefore the available information must be deemed to be correct unless it is contrary to other explanations, general probability and common sense, or the Board's general experience.

If the statements made are recent and concern matters that date back several years, certain reservations should be made. It is obvious that, if a statement is close in time to the events described, the description is more likely to be adequate, and the requirements regarding accuracy will be stricter.

Very inaccurate statements on events that happened a long time ago and can only be proved with great difficulty, or not at all, are often regarded as inadequate documentation. This applies in particular if the statement is not adequately supported by other information, such as information from the general practitioner regarding the onset of the disease and previous back-loading work, or the Board's experience in the field.

If the statements are so contradictory that choosing between them would lead to different results, the Board will first confront those making the statements with the "opposite" statement. In this way it is often

found that the discrepancy can be explained, for instance because the same burden is in fact lifted twice but has only been counted once in one statement.

If the statements are essentially contradictory, the Board may find it necessary either to send their travelling inspector or arrange for a judicial hearing, cf. the provisions of the Administration of Justice Act.

In other cases it is difficult or impossible to verify a piece of information, for instance if the injured person has had several jobs in the course of many years or previous employers have closed down their businesses. This uncertainty often means that the working conditions are not regarded as having been documented.

Thus the basis for assessing the case is often information on matters that date back several years, and quite often the description of the disease shows that it is difficult, from an objective point of view, to tell exactly what is wrong with the person in question. This aggregate information has to be assessed against the background of the various time and weight criteria mentioned in group E, item 11 of the list of occupational diseases.

In other words, all information is considered. An assessment is made of the evidence, including the probability and accuracy of the statement, as well as its correlation with other information and the experience of the National Board of Industrial Injuries.

If this assessment concludes that the documentation of the lifting work described in chapter 2 of this guide is inadequate, the case will be turned down.

Appendix 1: Whole-body vibrations

Against the background of surveys made, the International Standardisation Organisation (ISO) has established the correlation between exposure intensity for whole-body vibrations and the risk of health damage. The standard is ISO 2631, see below.

Various health risks in connection with whole-body vibrations

ISO 2631



Whole-body vibrations are measured by means of a flat rubber plate with embedded vibration feelers which is placed on the seat under the driver. The acceleration of the vibrations is measured in m/s^2 transversely in three directions. In the diagram, the vibration intensity is represented by the vertical axis and the exposure time by the horizontal axis. The vibration intensity in the horizontal direction should be multiplied by 1.4 before a comparison is made with the vertical direction and the graph is used. The diagram includes two parallel curves. In case of exposures below the lower curve, there are no clearly established harmful health effects. Between the curves there may be a health risk. Above the upper curve there is a health risk.

Example: The measured vibration intensity in the dominant direction is $1 m/s^2$. This implies that the risk of injury is small if the exposure time is less than two hours per day. If, on the other hand, the exposure time is more than about five hours per day, the risk of injury is great.

Appendix 2: Examples of vibrations in connection with the operation of various types of vehicular working tools and means of transport

More than $1 m/s^2$:

- most caterpillar vehicles
- certain trucks
- certain contractors' machines
- many forestry machines

$0.70-1 m/s^2$:

- many contractors' machines
- a number of tractors and agricultural machines

- some old lorries without modern spring suspension
- certain trucks
- a few cranes

Under 0.70-1 m/s²:

- certain trucks
- most cranes
- most semi-trailers and lorries
- vans
- buses
- cars
- trains
- ships

The indication of the vibration level is subject to some uncertainty, the nature of the surface and the speed of the vehicle being of significant importance for the total whole-body vibration in the specific case.

Further information on the vibration intensity of various vehicles is available from a German database - "Katalog repräsentativer Lärm- und Vibrationsdaten am Arbeitsplatz www.liaa.de/karla/