

DECISION OF THE SOCIAL SECURITY COMMISSIONER

1. The claimant's appeal to the Commissioner is allowed. The decision of the Barnsley appeal tribunal dated 12 July 2002 is erroneous in point of law, for the reasons given below, and I set it aside. The case is referred to a differently constituted appeal tribunal for determination in accordance with the directions given in paragraph 34 below (Social Security Act 1998, section 14(8)(b)).

2. The claimant has been successful on a point of law in the appeal to the Commissioner. He wanted me, in that event, to substitute a decision on the facts. He did not want to go back before another appeal tribunal. But I have concluded that that is what ought to happen. First, it is desirable that the issues of fact should be decided by a body including members with the medical expertise of medically qualified panel members of appeal tribunals deciding disablement benefit cases. Second, it is be fair to give the claimant the opportunity to give further evidence in person, and possibly to get other people (such as family or friends or work colleagues) to give evidence in person or in writing.

The background

3. The claimant submitted a claim for disablement benefit for what he described as hand arm vibration syndrome, vibration white finger, on 16 January 2001. He had worked as a fabrication plater in various employments from 1954 to 1994. There is no doubt that these occupations involved using tools mentioned in the prescription of prescribed disease A11. Since October 1994 he has not worked in occupations where vibrating tools are used.

4. On the claim form the claimant said that he first noticed tingling and numbness in 1975 and first noticed blanching of fingers in 1988. In describing how the disease affected him he said:

“Hand arm vibration white finger affects me as such that my hands and fingers are always extremely cold and numb. They blanch a lot then turn blue and then red and this gives a burning sensation through the hands and fingers along with pins and needles then tingling. This last for hours, the tingling is always there. The condition affects me both in summer and winter months. In extremely cold weather both hands cramp up. The left one is worse”.

He went on to describe problems with the swelling of his fingers and with the muscles and joints of his hand, arms and shoulders, and with fine movement and dexterity of the fingers. He also said that when working in cold conditions and cold steelwork his hands would cramp up and that this got worse over the years.

5. With his claim form the claimant enclosed a report for Occumed Ltd prepared by a Dr C P Herdman, an occupational health physician. This was in the context of a possible civil claim for damages. The report was dated 15 November 2000 and followed an examination on 7 November 2000. The report is long and detailed. I pick out the main points, relating to vascular symptoms rather than sensorineural symptoms. The “symptomatic history” recorded numbness and tingling of the fingers, worse when riding his bicycle and the left hand worse than the right. The left hand was said to seize up in cold weather and the hands to go white and blue in cold weather. Under “vascular symptoms” was the following:

"The Claimant does suffer from his fingers going white on exposure to cold. He first noticed this in 1988. The attacks of white finger happen all year round. He suffers 14 attacks per week in the winter. He suffers 3 attacks per week in the summer. The most common circumstances are when holding a cold steering wheel or riding his bike. When he has an attack, he has difficulty changing gears on his bike. The frequency of the attacks of whiteness are staying the same".

Dr Herdman recorded the extent of blanching on a chart and recorded a blanching score of 12 on the left and 9 on the right. The record of examination in a warm, comfortable room shows that the claimant's fingers were not a normal colour at the time, but that he had blanching of his fingers. Unfortunately, the extent and precise nature of the blanching was not recorded. The results of a battery of objective tests carried out in the Health and Safety Executive's laboratories in Sheffield were recorded. In conclusion, Dr Herdman put the vascular symptoms at 2 on the Stockholm scale and gave the following opinion:

"It is my opinion that this man has Hand Arm Syndrome. I base this opinion on the history, full medical examination and the objective tests. There is nothing to suggest any other pathology as the cause for his symptoms. I believe the above staging is appropriate".

There was a suggestion that industrial injuries benefit might be payable.

6. The claimant was examined for the Benefits Agency by a doctor on 6 December 2001, who had Dr Herdman's report in front of him. The history taken from the claimant recorded the onset of numbness and tingling, and pains in the fingers, arms and shoulders, in 1975. In answer to the question "Did you ever notice any change in appearance of fingers or hands?", the claimant is recorded as saying the following (I have made some guesses where photocopying has cut off some of the page):

"In 1988 I noticed change but not before. The fingers went white in 1988 approximately and I started getting [weals?] on my fingers. The first time I noticed whiteness it affected the four fingers on both hands from tips to where the ring is. This whiteness comes all the time and it stays for hours in winter and in summer. I ride a push bike every day so it gets worse when I set out on my push bike. My fingers and thumbs tighten up, then I cannot use them".

The doctor diagnosed white changes of fingers, cause unknown, and ticked that there was no evidence that the claimant had suffered from vibration white finger at any time since 5 July 1948. He wrote:

"Claimant developed white changes in fingers. This started in 1988 and remained the same in extent till present. This is not like the gradual evolution of vibration white finger. This condition therefore cannot be diagnosed".

The Secretary of State's decision and the appeal to the appeal tribunal

7. The decision was then given on 12 December 2001 that the claimant was not entitled to disablement benefit as he had not been diagnosed as suffering from prescribed disease A11 (vibration white finger). The claimant appealed. His main point was that as he had been diagnosed as having prescribed disease A11 by Dr Herdman and had been offered £1900 compensation from British Steel's insurers, he should be awarded disablement benefit. The claimant attended the hearing on 12 July 2002. He is recorded as having said that he noticed

whiteness of the fingers in 1988. All four fingers of each hand were affected from the tips to the level of where the ring is. The backs of the fingers were affected, but the claimant did not notice it as much on the fronts. They did not go completely white on the fronts of the fingers, just slightly white, whereas the backs were proper white. The claimant was also recorded as saying that he had had difficulty understanding the doctor on 6 December 2001 and had answered as honestly as he could. The medically qualified panel member examined the claimant and the findings were recorded, including that his hands were not immersed in ice-cold water, in view of his recent heart attack.

8. The appeal tribunal disallowed the appeal and confirmed the Secretary of State's decision. In its statement of reasons it concluded that the claimant was not suffering from prescribed disease A11 and continued (paragraph 5):

“The Appellant has stated both to the medical advisor and to the Tribunal that he first noticed whiteness of his fingers in 1988 when it affected all four fingers of each hand from the tips to just below the second knuckle of each finger. The extent of the whiteness had remained the same since then.

The evolution of PDA11 is a gradual one with the whiteness affecting more fingers and more of each affected finger as time goes by and exposure to vibration continues.

The Appellant also described to the Tribunal how the whiteness is a proper whiteness on the backs of his fingers but only a slight whiteness on the fronts. This is not a true circumferential whiteness. Herdman's report does not deal with either of these aspects.

The whiteness of the fingers to the full extent from the onset and the lack of a true circumferential whitening of the fingers is to be interpreted anatomically as meaning that there is unlikely to be blanching within the terms of the prescription.

On balance of probabilities, therefore, the Appellant does not have PDA11”.

The appeal to the Commissioner

9. The claimant now appeals against the appeal tribunal's decision with leave granted by Mr Commissioner Rowland. The Commissioner suggested that the appeal tribunal may have been wrong in stating that blanching which was not circumferential could not fall within the prescription, and referred to two Commissioners' decisions on the topic. The appeal was not supported on behalf of the Secretary of State in the submission dated 31 January 2003. It was submitted that Mr Commissioner Henty's decision CI/1807/2002 was to be preferred to Mr Commissioner Rowland's in CI/3596/2001 and that, since it was anatomically unfeasible for blanching as a result of vibration exposure to affect one side of the fingers only, there was no error of law in the appeal tribunal's concluding that there was no blanching within the terms of the prescription. The claimant made a detailed reply and requested an oral hearing, which was granted by Mr Commissioner Rowland.

10. The oral hearing took place at Doncaster County Court on 14 July 2003, after an earlier hearing had to be postponed. The claimant attended. The Secretary of State was represented by Miss Deborah Haywood of the Office of the Solicitor to the Department for Work and Pensions and by Dr Susan Reed of the Department's Corporate Medical Group. I am grateful to all present for their assistance.

The relevant legislation

11. Section 108(1) of the Social Security Contributions and Benefits Act 1992 provides that:

“(1) Industrial injuries benefit shall, in respect of a person who has been in employed earner’s employment, be payable in accordance with this section and sections 109 and 110 below in respect of –

- (a) any prescribed disease, or
- (b) any prescribed personal injury (other than an injury caused by accident arising out of and in the course of his employment),

which is a disease or injury due to the nature of that employment and which developed after 4 July 1948”.

The rest of section 108 gives the power to make regulations about prescribing diseases and section 109 provides generally for the benefits payable under section 108 to be the same as those paid for industrial injuries caused by accidents. Section 110 deals only with respiratory diseases.

12. The main remaining industrial injuries benefit is disablement pension. The conditions of entitlement in terms of industrial injury under section 103(1) are that the claimant is suffering as the result of the relevant accident from a loss of physical or mental faculty the extent of the disablement resulting from which is assessed at not less than 14%. Then Schedule 2 to the Social Security (Prescribed Diseases) Regulations 1985 provides:

“In sections 94 to 107 of the Social Security Contributions and Benefits Act 1992 and sections 8 to 10 of the Social Security Administration Act 1992 references to accidents shall be construed as references to prescribed diseases and references to the relevant accident shall be construed as references to the relevant disease and references to the date of the relevant accident shall be construed as references to the date of onset of the relevant disease”.

Thus in prescribed disease cases there can only be entitlement to disablement pension (usually called disablement benefit) if the claimant shows that he is suffering or has suffered from a prescribed disease which has resulted in a loss of faculty and an assessment of the resulting disablement is 14% or more. But that is subject to the general condition at the end of section 108(1) that the disease suffered (and falling within the diseases which are prescribed is “due to the nature of [the claimant’s] employment”.

13. Regulation 2(a) of the Prescribed Diseases Regulations provides:

“For the purposes of sections 108 to 110 of the [Contributions and Benefits Act] –

- (a) subject to the following paragraphs of this regulation and to regulation 43(3), (5) and (6), each disease or injury set out in the first column of Part I of Schedule 1 hereto is prescribed in relation to all persons who have been employed on or after 5 July 1948 in employed earner’s employment in any occupation set against such disease or injury in the second column of the said Part;”

In relation to prescribed disease A11 what is set out in the first column of Schedule 1 is as follows:

“A11. Episodic blanching, occurring throughout the year, affecting the middle or proximal phalanges or in the case of a thumb the proximal phalanx, of –

- (a) in the case of a person with 5 finger (including thumb) on one hand, any 3 of those fingers, or
- (b) in the case of a person with only 4 such fingers, any 2 of those fingers, or
- (c) in the case of a person with less than 4 such fingers, any one of those fingers or, as the case may be, the one remaining finger (vibration white finger)”.

The second column lists a variety of prescribed occupations which I do not need to set out as it is agreed that the claimant’s occupations down to 1994 were prescribed for the purpose of paragraph A11.

14. Finally, regulation 4(1) of the Prescribed Diseases Regulations provides:

“(1) Where a person has developed a disease which is prescribed in relation to him in Part I of Schedule 1 hereto, other than the diseases numbered A10, A12, B5, D1, D2, D5 and D12 in that Schedule, that disease shall, unless the contrary is proved, be presumed to be due to the nature of his employed earner’s employment if that employment was in any occupation set against that disease in the second column of the said Part and he was so employed on, or at any time within one month immediately preceding, the date on which, under the subsequent provisions of these regulations, he is treated as having developed the disease”.

The date on which a person is treated as developing a disease, the date of onset, is basically the date on which he first suffers from a loss of faculty resulting from the disease.

15. I have set out the legislation in much more detail than usual because the precise way that the various elements within the conditions of entitlement to disablement pension fit together is central to this case. The existence of the overall condition that the disease is due to the nature of the claimant’s employment and the effect of regulation 4(1) of the Prescribed Diseases Regulations are particularly important. In the present case, if the claimant were found to have been suffering from the disease as set out in paragraph A11 of the first column of Schedule 1 (which question I shall call “the diagnosis question”) from some date before November 1994, the disease would be deemed to be due to nature of his employment, so that the general condition would be satisfied. But that would be subject to proof, on the balance of probabilities, that the disease was not due to the nature of the prescribed occupation (see Commissioners’ decisions R(I) 38/52 and R(I) 4/91. On that issue, the burden of proof under the current adjudication regime lies on the Secretary of State.

The diagnosis of prescribed disease A11

Occupational origin

16. First, I have no doubt that in deciding the diagnosis question the cause of the condition is irrelevant. It is irrelevant at that stage whether the cause was the use of vibrating tools at work or even exposure to vibration from any source at all. Thus cases of primary Raynaud’s disease and of secondary Raynaud’s Phenomenon (see the extracts from the paper by Dr Reed on Raynaud’s Phenomenon which I have copied in the appendix to this decision)

not arising from the effects of vibration transmitted through the hands will fall within the diagnosis if sufficient fingers are affected episodically throughout the year. I reject the submission for the Secretary of State that the words "vibration white finger" in brackets at the end of the first column of paragraph A11 of Schedule 1 to the Prescribed Disease Regulations by inference create a test as part of the diagnosis question of a casual connection with exposure to vibration transmitted through the hands. In my view those words do no more than supply a convenient label for the prescribed disease, rather than a number. For the cause of a disease to be part of the diagnosis question there must be an explicit link in the appropriate paragraph in the first column, as there is, for instance, for occupational deafness (A10), allergic rhinitis (D4) and occupational asthma (D7). In the ordinary case, of which A11 is one, the necessity for an occupational connection comes from the overall condition in section 108(1) of the Contributions and Benefits Act, subject to the presumption in regulation 4(1) of the Prescribed Diseases Regulations.

Blanching

17. Second, I accept the submission for the Secretary of State that in its context "blanching" means something more than the normal paleness in the extremities experienced on exposure to cold, when the blood supply to the peripheral arteries will reduce to protect the system as a whole. It was submitted that it requires the intense whiteness, a profound deathly white, described in Dr Reed's paper on The Blood and Nerve Supply to the Hand (which I have copied in the appendix to this decision, although it is subject to some qualifications below). I have no doubt that such an effect is characteristic, but I decline to rule in law that "blanching" is restricted to that meaning. What is blanching in any particular case must be a matter for the medical expertise and experience of the medical advisors who carry out examinations and medically qualified panel members of appeal tribunals.

18. I take the view partly because of some of the evidence presented to Pitchford J in R (*on the application of the National Association of Colliery Overmen, Deputies and Shotfirers*) v *Secretary of State for Work and Pensions* [2003] EWHC 607 (Admin), 1 May 2003. I was not referred to that decision, which was about whether the Department's Notes on the Diagnosis of Prescribed Diseases should be amended to state that a negative result on cold water provocation testing was of no diagnostic value for prescribed disease A11, in the present case. In the 1993 report of a Working Party of the Royal College of Physicians, entitled Hand-transmitted Vibration, Clinical Effects and Pathophysiology, paragraph 2 of chapter 1 described attacks of episodic blanching, with a pattern of blue/white discoloration followed by redness. That might be consistent with what Dr Reed said in her paper referred to in the previous paragraph, that on re-warming the affected areas become cyanosed (blueish in colour), due to low blood-oxygen levels, and then very red, due to a rebound of excessive oxygen (reactive hyperaemia). That might also be consistent with paragraph 505 of the Medical Assessment Framework (of which Dr Reed was apparently a principal author, and which was part of the evidence in the NACODS case), where the colours of individual cases there was evidence of doctors regarding some mottling as amounting to blanching, which the judge did not rule out, especially if it could amount to blue/white discoloration. In view of those difficulties I should not trespass on areas of expert medical judgment.

Circumferential blanching

19. Third, I am satisfied that, contrary to the view expressed by Mr Commissioner Henty in CI/1807/2002 and contrary to the submissions for the Secretary of State, it is not a requirement for the diagnosis question's being answered in favour of a claimant that the blanching of the fingers should be circumferential. The submission for the Secretary of State

was that, for the reasons given in Dr Reed's paper, it was not anatomically feasible for the front of the fingers (ie the palm side) to be affected by blanching, but not the backs. Therefore, it was said, when the word "blanching" was used in the prescription it must, by necessary inference, have meant circumferential blanching. I do not agree. The words of the prescription should be taken as they are, without adding any artificial restrictions. That is not to say that evidence to the effect that blanching of the fingers is not circumferential is not relevant at other important points in the decision-making process, as I discuss in paragraph 21 below.

20. In addition, Dr Reed made what seem to me important concessions at the oral hearing. She had already said in her paper that the exact microscopic pathological process causing the symptoms of Raynaud's Phenomenon is unknown. I understand that to mean that while it is known that chronic exposure to vibration transmitted through the hands causes intermittent constriction of arteries and arterioles on exposure to cold, it is not known how the vibration produces the damage which has that effect. She went on to say that nothing in medicine is absolute and that propositions must be taken as describing normal circumstances, leaving the possibility that in unusual circumstances a proposition will not hold good. So she suggested that an individual might have some peculiarity of anatomy which meant that only one side of the fingers was affected or that only one side exhibited the classic blanching rather than some other discoloration. She also suggested that, as it is known that the use of particular tools can affect specific fingers, it could possibly be that the use of an unusual vibrating tool or the use of some unusual technique by the person concerned might lead to a particular area of the fingers being spared damage and the pattern of blanching being limited or concentrated on one side of the fingers. In my judgment, once such concessions are made, the argument of law that blanching must mean circumferential blanching must fall away.

21. For those reasons, I respectfully decline to follow the approach in law adopted by Mr Commissioner Henty in CI/1807/2002. I prefer the approach of Mr Commissioner Rowland in CI/3596/2001 and disagree with Mr Commissioner Henty that that decision was reached per incuriam. In CI/3596/2001 it was said that blanching "of the palmar side of the fingers only may be an atypical condition but it is sufficient to meet the terms of the prescription and that is what is relevant when it is being determined whether or not a claimant is suffering from a prescribed disease or injury". I agree.

22. How then can an appeal tribunal deal with a case in which the history given by a claimant is of blanching affecting one side of the fingers only? One possibility was suggested in CI/3596/2001, that the atypical nature of such circumstances might be a reason to doubt the history given by the claimant. That is certainly a relevant factor, which would have to be weighed by an appeal tribunal along with all the other evidence and all the other factors pointing both in favour of and against a claimant's case. For the doubt might go in either direction. A claimant might be unobservant and have failed to notice the circumferential nature of the blanching (although it is also said that blanching once experienced cannot be mistaken). Or there might be a doubt that a claimant's memory was accurate or that he was telling the truth about the exact nature of the changes in colour of the fingers or the extent of the effect.

23. A second possibility mentioned in CI/3596/2001 was that a lack of circumferential blanching might indicate that the disease was not due to the nature of a claimant's employment. I am not quite sure how that would work if what is important is the basic anatomy of the blood vessels in the fingers. Presumably, primary Raynaud's Disease and secondary Raynaud's Phenomenon would also typically affect both sides of the fingers. But whether that is so or not is a matter of medical judgment that, again, should be left to those

with the proper expertise. For now, the essential point is that, if an appeal tribunal considered that this possibility existed, it would not be relevant to the diagnosis question as I have defined it. It would be relevant to the separate question of whether the disease was due to the nature of the claimant's employment and that question would have to be considered separately because of the burden on the Secretary of State to displace the presumption in regulation 4(1) of the Prescribed Diseases Regulations.

Sudden onset

24. Similar points arise where there is evidence of a relatively sudden appearance of blanching affecting a finger or fingers to a significant extent, rather than a gradual spread of the extent of the blanching from the tips of the affected fingers down towards the base. It is no part of the diagnosis question as I have defined it that there should have been a gradual spread of blanching. If enough fingers are affected by blanching to the prescribed extent that is sufficient. However, evidence of the way in which the blanching started and spread, if it did, will be relevant, together with other relevant evidence (such as whether blanching or tingling started before the first use of vibrating tools, or whether it started only after such use had stopped and the relation of the spread of blanching to continued use of such tools), to the issues of whether the history given by the claimant is to be accepted and of whether, if A11 is diagnosed, it is due to the nature of the claimant's employment.

25. I must again not trespass on areas of medical expertise, but Dr Reed put forward some helpful points. These must be subject to the same warning that there may be unusual cases which deviate from the norm. She said that the first symptom is usually tingling and that blanching usually begins to develop later, I think in vibration-induced cases first in the finger or fingers most subject to vibration. She said that it was anatomically unfeasible for blanching to develop overnight and that one would expect the smallest blood vessels towards the tips of the finger to be affected first and for the blanching to spread gradually, if there was continuing exposure to vibration, to the larger blood vessels further down the finger. She also said at the oral hearing that in cases of primary Raynaud's Disease the blanching tended to spread more quickly than in cases of secondary Raynaud's Phenomenon. However, she said that, if a person had some genetic predisposition to the condition, blanching due to exposure to vibration might spread relatively quickly. That seems to me to suggest, subject to medical judgments in particular cases, that although a history of a very sudden onset of extensive blanching might be looked at with suspicion, a more rapid spread of blanching than usual would not in itself point to the diagnosis question being decided against a claimant. The diagnosis question itself does not distinguish between primary and secondary forms of the condition, but is limited to the existence and extent of the particular symptom of blanching. However, a rapid spread might be relevant as a factor, along with all the other relevant evidence, in deciding whether the Secretary of State had displaced the presumption that the prescribed disease was due to the nature of a claimant's employment.

Did the appeal tribunal err in law?

26. The appeal tribunal did go wrong in law, by failing to make adequate findings of fact or give an adequate explanation of its conclusion, in a way which leaves it impossible to say that it applied the right legal meaning to prescribed disease A11. The issue turns on what the second paragraph on the second page of the statement of reasons means:

“The whiteness of the fingers to the full extent from the outset and the lack of a true circumferential whitening of the fingers is to be interpreted anatomically as meaning that there is unlikely to be blanching within the terms of the prescription”.

The conclusion immediately following was that the claimant did not have prescribed disease A11 and the Secretary of State's decision which was confirmed was that the claimant had not been diagnosed as suffering from prescribed disease A11 and so was not entitled to disablement benefit.

27. If the appeal tribunal meant that it found, because of the factors mentioned, that the claimant did not have the extent of the whitening which he had described in his oral evidence and written statements, it should have said so expressly. If the claimant's evidence on that was being rejected, he was entitled to be told that clearly. The appeal tribunal did not do those things. On the meaning assumed above, the appeal tribunal left the claimant in the dark about how far his evidence was accepted or rejected and thereby erred in law. The same would apply if the appeal tribunal meant that it accepted that some whitening occurred as the claimant had described, but that it was not blanching within the meaning in paragraph 17 above. Such a conclusion would have to have been spelled out clearly.

28. If the appeal tribunal meant that it accepted that the claimant experienced the extent of whitening which he had described, but that that did not allow the diagnosis question to be decided in his favour, that reasoning embodied an error of law. Such a conclusion could only have been reached on one or both of the following bases, that circumferential blanching and a gradual onset were requirements for the deciding the diagnosis question on prescribed disease A11 in favour of a claimant or that an occupational origin was a requirement for doing so. For the reasons explained above, as a matter of law none of those matters is a bar to the diagnosis of prescribed disease A11 if it is found that the symptom of blanching is present to the required degree. On this assumption as to the appeal tribunal's meaning (which I think is the most likely one), it adopted a false proposition of law.

29. If the appeal tribunal meant that it accepted that the claimant had suffered from the disease as set out in column 1 of paragraph A11 of Schedule 1 to the Prescribed Diseases Regulations from 1988, but concluded that he was not entitled to disablement benefit because the disease was not due to the nature of his employment in a prescribed occupation, there was no adequate explanation of that conclusion. There was no recognition of that being a separate issue from that of diagnosis or that the burden of proof was on the Secretary of State to displace the statutory presumption in favour of the claimant. Nor, if that was the issue which the appeal tribunal thought was decisive, was there any notice of that to the claimant. He therefore did not have a fair opportunity to deal with that issue, if it was in truth the real basis for the appeal tribunal's decision. Therefore, on the assumption of this paragraph the appeal tribunal went wrong in law in several ways.

30. Thus, whatever the appeal tribunal intended to express, it went wrong in law in some way or other. And the failure to make clear the true basis of its decision was a further illustration of inadequate reasoning.

The Commissioner's decision

31. For those reasons, the appeal tribunal's decision must be set aside as erroneous in point of law. As explained briefly in paragraph 2 above I have concluded that I should not substitute a decision on the claimant's appeal against the decision dated 12 December 2001. To expand slightly on those reasons, the claimant told me at the oral hearing that he had got muddled at the appeal tribunal about the fronts and backs of his finger and had given some "silly" answers to the examining doctor on 6 December 2001. It is plain from what I have said above that evidence of just how and when blanching of the fingers started and progressed will be very relevant to the claimant's case. It is fair to give him a further

opportunity to give direct evidence himself in person and, if necessary, to explain what he is recorded as having said in the past. It is also fair to give him the opportunity of producing evidence from other people about the start and progress of blanching. By the same token, the Secretary of State may wish to develop points made about the claimant's case, such as the point that, if the claimant had been suffering the extent of blanching described for the lengths of time and at the frequency described, irreversible tissue damage would have been expected, which is not in fact present. The claimant should have the opportunity to answer any such points.

32. The claimant naturally puts a lot of weight on Dr Herdman's report and the results of expert testing. However, so far as the claimant's condition as at 1988 and while he was working is concerned, rather than his condition as at the date of the report in November 2000, the claimant's own evidence is vital. And the evidence put before the court in the NACODS case has emphasised the limitations of "objective" testing when the concern is the diagnosis of the very specifically defined condition of prescribed disease A11. It seemed eventually to be agreed there that a cold water provocation test carried out under acceptable criteria could be used as one diagnostic tool in the sense that a positive result could be regarded as a factor pointing towards a diagnosis, although a negative result should not be regarded as a factor pointing the other way. But it is still the case, regardless of the merit or otherwise of points made on behalf of the Secretary of State (such as to question Dr Herdman's expert status and to draw attention to the lack of the detail in his observation that the claimant had blanching of the fingers on examination), that other evidence from the claimant is important for his appeal.

33. Accordingly, I refer the appeal against the decision dated 12 December 2001 to a differently constituted appeal tribunal for determination in accordance with the following directions.

Directions to the new appeal tribunal

34. There must be a complete rehearing of the appeal on the evidence presented and submissions made to the new appeal tribunal, which will not be bound by any findings made or conclusions expressed by the appeal tribunal of 12 July 2002. The new appeal tribunal must follow the legal approach set out in paragraphs 16 to 25 above, carefully identifying the different questions within the conditions of entitlement for disablement benefit and applying the proper burden of proof to each question that becomes relevant. I need give no further directions of law. The evaluation of all the evidence will be entirely a matter for the judgment, including expert medical judgment, of the members of the new appeal tribunal.

(Signed) J Mesher
Commissioner

Date: 14 August 2003

APPENDIX TO CI/4582/2002

The Blood and Nerve Supply to the Hand

1. Glossary of terms

Artery: the blood vessels that transport oxygenated blood (ie blood which has picked up oxygen from the lungs) to the body. These begin as large trunks which divide and become smaller and smaller until they form small branches known as arterioles.

Arterioles: these are the very small branches of the arteries. These further divide to form capillaries.

Capillaries: these are further small divisions of the arterioles from which oxygen leaves the blood and enters the tissues, and in exchange carbon dioxide is picked up from the tissues to the blood to be transported back to the heart and thence to the lungs. Once they have given up the oxygen in exchange for the carbon dioxide the capillaries join together to form venules.

Venules: these are small veins which join together to form small veins which in turn join to form large veins which return the de-oxygenated blood to the heart and then to the lungs.

Nerves: Peripheral nerves are formed by sensory fibres carrying impulses from the peripheral organs such as the skin to the spinal cord and thence to the brain in order that the person can feel sensations of pain touch, temperature etc; and motor fibres carrying impulses from the brain via spinal cord to the muscle. Just like the blood system, the nearer to the periphery the nerve fibre, the thinner it is, containing fewer individual fibres. The sensory nerve fibres end in the skin and are referred to as Nerve Endings.

Vasospasm: constriction of the arteries and arterioles resulting in a decrease of cessation of blood flow through the affected blood vessel. Also referred to as vasoconstriction.

Vasodilatation: relaxation of the arteries and arterioles allowing an increase of blood flow through the affected vessel.

2. The Blood Supply to the Hands and Fingers

Blood to the hands is supplied by the Radial Artery, which enters the hand at the thumb side of the wrist, and the Ulnar Artery which enters the hand at the little finger side of the wrist (See Figure I).

The two arteries join at two points to form the Superficial Palmar Arch and the Deep Palmar Arch (See Figure I).

The arteries that supply the 4 fingers are branches of the Superficial Palmar Arch (See Figure I), and are known as the Digital Arteries. The 2nd, 3rd and 4th Digital Arteries branch at the level of the web of the fingers and a branch travels up each side of the little, ring and middle fingers (See Figure I). The 1st Digital Artery runs along the thumb side of the index finger (See Figure I), and the 5th Digital Artery travels along the outer side of the little finger.

The artery that supplies the thumb arises from the Deep Palmar Arch and divides into two digital branches which travel at each side of the thumb.

As the Digital Arteries travel along the sides of the digits, they give off branches which supply the muscles and skin of the front and the back and the sides of the fingers and thumbs (See Figures I and II). The branches further divide to form arterioles and ultimately capillaries. The capillaries then join to form veins.

3. The nerve supply to the hand and Fingers

The Sensory Nerves carrying sensation from the hands to the brain via the spinal cord are the Ulnar Nerve and the Median Nerve (Note: these nerves also carry motor impulses to the muscles of the hand).

The Ulnar Nerve enters the hand alongside the Ulnar Artery, and the Median Nerve enters the hand alongside the Radial Artery (See Figure I).

Nerve fibres carrying sensation from the little finger and the side of the ring finger next to the little finger are carried in the Ulnar Nerve (See Figure I).

Nerve fibres carrying sensation from the side of the index finger next to the middle finger and the other fingers and thumb are carried in the Median Nerve (See Figure I).

4. Changes that occur in Raynaud's Phenomenon (Including Vibration White Finger, WWF)

The exact microscopic pathological process causing the symptoms of Raynaud's Phenomenon are unknown. However the effect is one of intense vasospasm in the affected arteries and arterioles thereby causing a virtually complete reduction of blood to the arterioles, and capillaries beyond the level of the constriction. This results in an intense whiteness (blanching) which is not just a paleness that one obtains when one presses one's hand on a glass for example, but a profound, deathly white, which if it was not reversed would result in death of the tissues beyond the level of the constriction. The vasospasm (also referred to as vaso-constriction) reverses on re-warming of the hands or spontaneously. The affected parts then become cyanosed (bluish in colour) due to the blood in the vessels being low in oxygen and then very red (due to a rebound phenomenon of excessive vasodilatation – known as reactive hyperaemia) before returning to the normal colour. The colour changes are accompanied by altered sensation such as tingling or pins and needles. These sensory changes can occur without the colour changes, and are often the first symptoms of the disease that the patient experiences.

The colour changes and the altered sensation are so unlike anything that normally occurs in the hand, that once experienced the patient will be able to give an accurate and repeatable history of the changes.

Because the blood vessels run along the sides of the fingers and the same blood vessels supply the front and the back of the fingers, when blanching occurs it affects the front and the back of the fingers. It is not automatically feasible for the front of the fingers to be affected and not the back. (See Figures I and II).

As the arteries and arterioles supplying blood to the fingers derive from larger arteries which supply the palm of the hand, should the arteries supplying the palm of the hand be subjected to vasospasm, thereby reducing the blood supply, then the fingers and thumb will also have their blood supply reduced. It is therefore not anatomically feasible for the palm to be affected by blanching but not the fingers. The blood vessels supplying the hand are relatively large arteries which are less likely to be damaged by the physical agents such as vibration than the smaller more delicate arterioles and arteries of the fingers. Hence in the early stages of the disease it is the small arterioles that are affected, the larger arteries only becoming affected with the passage of time. Thus the symptoms of blanching are slowly progressive, beginning in the tips of the fingers where the capillaries and arterioles are very small, and only slowly over time, and, if the cause is vibration, with continued exposure to vibration.

Similarly, the nerves to the fingers supply the front and the back of the fingers, so that if there are sensory changes at the front, there will be sensory changes at the back. As with the arteries, the Median and Ulnar nerves are relatively large and not as easily damaged as the smaller branches in the fingers and the finger tips.

The nearer the tips of the fingers the smaller the blood vessels and nerves and the more susceptible they are to damage. Hence symptoms begin in the tips and progress slowly down to the digits towards the bases of the fingers. Only in very advanced disease are the palms of the hands affected.

The thumbs are very much less affected by vibration induced white finger, possibly due to the blood supply being from the Deep Palmar Arch, and/or possibly due to the manner in which vibrating tools are held.

Dr S M C Reed BSc MB ChB Dip Occ Med DDAM

31 May 2002

**The Assessment of Medical Conditions with particular reference to
Raynaud's Phenomenon and the use of the Cold Provocation Test
(Cold Water Provocation Test)**

Raynaud's Phenomenon

11. Raynaud's Phenomenon is caused by intense vasospasm of the peripheral arteries (ie constriction of the blood vessels supplying the affected part of the body) on exposure to cold. Thus there is restricted blood flow to the affected part.

Incidence

12. Raynaud's Phenomenon is a common condition. It affects approximately 5% of the population (though some studies give figures as high as 20% of the population). It is more common in women than men (5:1).

Aetiology

13. The causes of Raynaud's Phenomenon include the following:

- (1) Primary Raynaud's Disease: Constitutional, or idiopathic white finger, the cause of which is unknown. It often affects other family members.
- (2) Secondary Raynaud's Phenomenon: There are many causes of secondary Raynaud's Phenomenon, vibration being just one of them.

Most cases are due to Primary Raynaud's Disease.

Clinical features

14. The clinical features of both Primary and Secondary Raynaud's Phenomenon are:

The onset of Raynaud's Disease and Raynaud's Phenomenon is usually gradual over a number of years, with attacks being rare in winter only. Usually the fingers are affected, (but it can affect the toes and, more rarely, the nose, ears, cheeks and chin), beginning with tingling and/or numbness in the tips of the finger.

Later in the progression of the disorder there is well demarcated blanching on exposure to intense cold, at first in the tips of the fingers, but over time this blanching progresses to affect more and more of the finger, and to occur throughout the year in that it can occur on colder summer days.

The colour changes in Raynaud's Phenomenon are characteristic. The blanching is an intense whiteness (not just a paleness) with a well defined demarcation. The blanching may last a few minutes or (rarely) last up to an hour or two. Sometimes immersion in warm water speeds up recovery. On recovery the fingers may become cyanotic (ie turn a greyish – blue colour) or become hyperaemic (ie very red in colour). Blanching is not just a paleness, it is an intense whitening. In severe cases, with the passage of time, there may be trophic changes leading to gangrene of the tips of the fingers.

The arteries supplying blood to the fingers run on each side of the finger and supply off-shoots to both the front and back of the fingers. Hence when in spasm, the blanching of the fingers is circumferential (ie it affects the front, back and sides of the fingers, not just the front).

As the symptoms are intermittent, and only occur in cold conditions, it is rare for the clinician to witness an attack. Thus, in a specific case, it is important not only to try to have an accurate description of the symptoms, but also to establish the cause, particularly in cases where it is claimed that the cause is occupational in origin.

Diagnosis

15. It is rare for a clinician to witness an attack of Raynaud's Phenomenon. Hence the diagnosis and the aetiology are based on the patient's history of attacks, with or without the assistance of diagnostic aids.

Tests to aid the diagnosis of Raynaud's Phenomenon

16. There is no simple, reliable test for Raynaud's Phenomenon, and much of the diagnosis depends on the history and observations during the interview.

17. Over the years attempts have been made to develop tests, but those that have been developed are not very reliable, lacking sensitivity (ie having many false positives and false negative results) and specificity (ie are not focussed just on Raynaud's Phenomenon). The Industrial Injuries Advisory Council (IIAC) have reported on Vibration White Finger and Hand Arm Vibration Syndrome (HAVS) on several occasions. It is reported in 1954 recognised that the tests available at that time had a 50% error rate.

18. The tests that have been developed for Raynaud's Phenomenon fall into 2 broad categories:

Vascular Tests – to test the function of the blood vessels to the affected part.

And

Neurological Tests – to test the function of the nervous supply to the affected part.

19. In both categories the tests developed range from simple testing which can be performed in virtually any setting, to sophisticated procedures requiring a controlled environment. For example:

- A simple vascular test can be carried out by placing the patient's hands in cold or iced water can be performed in any setting. A more sophisticated version of this test would be to measure, using transducers, the re-warming of the hand after it has been placed in cold water. Both these tests would be referred to as Cold Provocation Tests or Cold Water Provocation Tests, and are in the category of 'Vascular tests'.
- A simple neurological test would be to test the patient's responses to pin-prick. A more sophisticated test would be to accurately measure the vibrotactile thresholds using special equipment.

20. However, it is recognised that even the most sophisticated tests that have been developed are not very accurate. Thus negative results to testing in a case where there is a clear consistent history should not outweigh that evidence.

21. A review of the literature on testing procedures for Vibration White Finger (a form of Secondary Raynaud's Phenomenon) indicates that the use of the cold provocation test or cold water provocation test, in some form or other, continues to be a diagnostic aid.

22. When referring to the 'Cold Provocation Test' or 'Cold Water Provocation Test' one is not referring to a single test, but an array of different procedures all of which involve cooling of the affected part of the body (usually the hands).

23. In its most simple form the test involves placing the patient's hands in cold water or iced water. Even in this simplest form of the test there are differing views on its application. Some testers prefer the water temperature to be tepid, but to leave the hands submerged for several minutes (eg 10 minutes), whilst others prefer to use iced water, but leave the hands submerged for less time (eg three minutes).

24. In the more complex forms of the test various types of sophisticated testing equipment is used, and the environment of the testing centre is controlled for temperature, humidity, etc. These sophisticated versions of the test take a considerable length of time, use expensive equipment, and require specially trained technicians to administer the test.

25. In effect these tests, although bearing the same or similar names, are entirely different tests.

26. However, even the most sophisticated methods of testing are still considered to be diagnostic aids, as there are too many false results for the tests to be considered diagnostic tests. The various forms of the cold provocation test may cause vasospasm producing blanching in a normal person, and conversely may not induce blanching in a person who has Raynaud's Phenomenon. Thus all of the tests have to be considered along with the history, and a negative test in a case with a clear consistent history, would not result in the disease not being diagnosed; and conversely a positive test in a person with no history of symptoms and signs suggestive of Raynaud's Phenomenon would not result in the disease being diagnosed.

Conclusion

27. The use of diagnostic aids and tests is a clinical decision to be made in each individual case, using medical knowledge and judgement to evaluate what is required depending on the circumstances of the case under consideration.

28. Although recognised as not being sufficiently specific or sensitive to form conclusive proof of the presence or absence of Raynaud's Phenomenon, the basic cold water provocation test, in some cases, has a place in the overall assessment of the patient in order to form the diagnosis.

29. It fulfils the criteria considered suitable when advising on issues of benefit entitlement, in that it is non-invasive and safe to the claimant, tester, and the environment; it is cheap; and relatively quick and easy to perform, requiring no special equipment or testing facilities. (See para 10).

30. A clinician would not reject the diagnosis on the basis of a negative test alone. However, in cases where there is some doubt as to the accuracy of the history, a positive test could add weight to the conclusion that the disease is present.

Dr S M Reed BSc MB ChB Dip Occ Med DDAM

2 August 2002