

This is a draft of the judgment to be handed down on 10th January 2011 at 2.00p.m. in Court No 1 by His Honour Judge Seys Llewellyn Q.C. It is confidential to Counsel and Solicitors and the parties.

The court is likely to wish to hand down its judgment in an approved final form. Counsel should therefore submit any list of typing corrections and other obvious errors in writing (Nil returns are required) to Rosie Pahl the clerk to His Honour Judge Seys Llewellyn QC, by fax to 02920 37 6475, or by email rosie.pahl@hmcourts-service.gsi.gov.uk by 12 noon on 7th January 2011 so that changes can be incorporated, if the judge accepts them, in the handed down judgment.

IN THE CARDIFF COUNTY COURT

CASE NO: 7CF07762
7CF08881

BETWEEN

- (1) ROBERT JAMES HURLEY
- (2) TERRENCE JAMES

Claimants

AND

CHRISTIE TYLER SOUTH WALES WEST DIVISION LIMITED

Defendants

JUDGMENT (Final subject to correction of typos or obvious error).

1. The claims in each action are for damages for Hand Arm Vibration Syndrome (HAVS) which are alleged to have arisen from the Claimants' employment with the Defendant Christie Tyler. The two actions are heard together. They are not test cases but they are lead cases, in that a number of other potential claims against the Defendant have been stayed pending the trial of these claims.
2. The Defendant operated a number of factories which manufactured furniture until the collapse of the group in 2005. The Claimants may have worked for individual companies within that group, but it is accepted that the action properly lies against the Defendant. Mr Hurley worked as an upholsterer on the production line from 1973 to 1987, and thereafter as an upholsterer in design and development. Mr James worked as an upholsterer from 1975 until 2004 (save for two spells during March 1998 to November 1999 and during 2000). In particular the hands on work involved use of a staple gun although in the case of Mr Hurley there was also some use of a drill and there was much less frequent use of a gun which fired wire to secure springs in the correct alignment on the furniture. Each man developed impaired sensation in the fingers, prone to numbness and tingling particularly in cold weather and some limitation in function which I need not detail at this stage. The claim is that this was induced by exposure to vibration in using the tools provided for them during their work, that there was guidance available to the employers in relation to the risk of such injury, and that the employers had failed to heed or act in accordance with that guidance, with consequent injury to each Claimant.
3. The questions which arise for decision are
 - i. What exposure to vibration was there for each man in the course of his work, and/or what was the average dose expressed in scientific terms (namely $\text{m/s}^2\text{A}(8)$ namely a measure of averaged vibration exposure during an 8 hour day)?
 - ii. What guidance was there to employers, and ought these employers to have been aware of the guidance, if so from what date, and what steps were required according to such guidance?
 - iii. Were the employers in breach of duty in failing to heed or act upon such guidance?
 - iv. Does the Claimant establish HAVS, namely causation medically of the condition of which he complains by the exposure to vibration?
 - v. Does he establish legal causation by failure to heed or act upon such guidance? Alternatively in that some injury was foreseeable albeit not specifically HAVS? Alternatively in that there was material contribution to his injury by failure to act?
4. I heard evidence from Mr Hurley and Mr James; and from four other lay witnesses who had worked for the Defendant as upholsterers, namely Mr Collier, Mr Taylor, Mr Cairns-Jones, and Mr Ayton. It was apparent from each that they had similar work experience, but their working experience was not identical. Some worked in larger teams, some in smaller, and the exact content of their work was not identical. I received written medical evidence respectfully from Mr Tudor Davies for the Claimants and Mr Downing for the

Defendants. Lastly I received written report and oral expert engineering evidence from Mr Glendenning for the Claimant and Mr Smith for the Defendants. I did not receive or hear any evidence of fact on behalf of the Defendants, it being clear from a witness statement on behalf of the Defendants by their solicitor that the relevant managers have been dispersed and are not easy to trace following the financial collapse of the group in 2005.

5. On behalf of the Claimant, Mr Mallett contended that the work was repetitive, fast, awkward, required force and involved the use of vibratory tools; and that the “primary” risk was of WRULD (Work Related Upper Limb Disorder). He preferred to put it that there was “also” a risk from vibration exposure alone.
6. It will be helpful first to give some general background as to WRULD and Hand Arm Vibration Syndrome.
7. It has become well known that prolonged repetitive and intense work with the upper limbs is capable of giving rise to disorder in the upper limbs. In 1977 Guidance Note MS 10 was published by the Health and Safety Executive, entitled “Beat Conditions - Tenosynovitis”. This Guidance Noted referred explicitly to Beat Hand, the result of infection of subcutaneous tissue which has been devitalised by constant bruising; Beat Knee a bursitis or subcutaneous cellulitis of the knee due to long continued or repeated pressure minor trauma or repeated cycles of movement; Beat Elbow “a condition similar in aetiology to Beat Knee, but a single although perhaps sustained, injury is often more easily identifiable as the cause”- and tenosynovitis. As to tenosynovitis, it stated

“tenosynovitis is an important cause of sick absence and, is the second commonest prescribed disease in the United Kingdom. It occurs in many industries, but especially in those where rapid, repetitive, twisting and gripping movements are common, e.g. pottery, glaze dipping, brick making, assembly line work and belt conveyor sorting for food canning, press operations, and the evisceration and trussing of chickens.

12. the condition is liable to result from trauma, over use of the wrist and forearm during repetitive operations, unaccustomed work, alteration in work tempo or from persistent strain. It occurs most often in new employees or on return to work after an absence or on the introduction of a new process of tool which places unusual strain on muscles”.....

16. the traditional therapy has involved cessation of the causative occupation, and frequently immobilisation of the affected part, often in a plaster of Paris splint. This treatment, if effective, can be indeterminate in duration. Either condition may cause several weeks’ absence from work and re-employment on the same job may cause re-occurrence”.

8. In 1990 HS(G)60 was published “Work Related Upper Limb Disorders – A Guide to Their Prevention” which replaced Guidance Note MS10 and had a wider scope ; “although it excluded vibration white finger” the earlier term for

what is now known more as HAVS (Mr Glendenning preliminary report paragraph 4.7 generic bundle page 18). This document contained extensive advice on upper limb disorders, what they were, what the risk factors were, and how they could be controlled. Carpal tunnel syndrome was mentioned as a specific risk.

9. HS(G)60 was revised in 2002 containing more up to date information on the various upper limb disorders and controls of risk.
10. HAVS is caused by exposure to hand arm vibration resulting from holding vibrating tools or work pieces. The risk of the person exposed to hand arm vibration developing HAVS depends principally upon: a) the magnitude of vibration b) the duration of exposure to vibration. If these two factors are known or can be estimated, then a “vibration dose” can be calculated and used to inform decisions with regard to risk management. To allow different vibration exposure patterns to be compared, vibration doses are adjusted to a standard reference period of 8 hours. This is referred to as the A (8) value. A (8) values can be calculated for workers exposed to various sources of vibration during a day. Other factors also have an effect on the level of risk associated with exposure to hand arm vibration. These include the grip force used, and the pattern of exposure i.e. the length and frequency of work and rest periods.
11. I have taken this resume from the draft report of Mr Glendenning who gave evidence before me paragraphs 3.4–3.6; it is familiar to me from trying such cases.
12. Published guidance includes advice on the relationship between vibration exposure and likelihood of symptoms developing. It is habitual in these cases (depending in individual application on the dates of alleged exposure to vibration) to have reference to such guidance:

1975 “Guide to the Evaluation of Exposure of the Human Hand Arm System to Vibration” BSDD 43, the first published authoritative guidance on the subject which gave guidance as to maximum figures which should not be exceeded;

1987 the “Guide to Measurement and Evaluation of Human Exposure the Vibration Transmitted to the Hand” BS6842 which describe measurement and evaluation of human exposure to vibration and methods of measurement, repeating an expanding upon the preventative procedures described in DD43; and which included comment that “symptoms do not usually occur if the frequency weighted acceleration is below about 1m/s^2 ..”;

1994 guidance by the HSE “Hand Arm Vibration” HS(G)88 which for the first time positively set out an “action level” of 2.8m/s^2 A(8) and which was intended as source of reference for those involved in identifying and controlling the risk of HAVS.

(Further guidance was given in 2001 in ISO 5349 2001 (Mechanical Vibration – Measurement and Evaluation of Human Exposure to Hand Transmitted Vibration); and in the Control of Vibration at Work Regulations 2005 which came into force on 6th July 2005 supported by HSE Guidance published in September 2005. They have not figured in the cases before me).

(i) What exposure to vibration was there for each man in the course of his work, and/or what was the average dose expressed in scientific terms (namely $\text{m/s}^2\text{A}(8)$ namely a measure of averaged vibration exposure during an 8 hour day)?

13. Mr Hurley. From 1973 to 1987, Mr Hurley was on the production line. He, like other lay witnesses called, described the work on the production line as intensive. On his own production line, he identified five principal stages of the production line. The first was to pick a wooden frame up on the bench, and to “prep up” the arms by attaching sheeting and/or cardboard and/or propylene. At the second stage, the sofa or chair would be passed on for then next men to take an arm each putting on foam and colour fabric or leather, basically “tacking” the fabric to the arms. At the third stage men would deal with the inside back, putting springs on the piece, webbing, the back stage, foam and then any fabric. The fourth stage would involve the seat, with the majority of springs being put on although some would have plastic webbing, and after springs were put on putting insulation on, fabric, and passing it yet further. At the fifth stage there were attached the outside back, and if necessary feet, normally wooden, by screws or sometimes wooden dowels. His own work was primarily on prepping up, on stage 1, or on stage 5, although he would take his turn at any stage, if able to assist having done enough prepping up at the first stage to keep the production line running.

14. From 1987 on, he was involved with production and design, doing much the same work, but somewhat less intensively in that pieces being designed would be made up, stripped down and refashioned as necessary until the design appeared right. During his work on design and development he used a staple gun “for about 4 hours per shift on average and the drill 1 hour per shift on average” (witness statement paragraph 18 generic bundle page 200) a description to which he broadly adhered in oral evidence. Staples came in boxes of 20,000 per box. He estimated that he would use 2 boxes in a four day period (witness statement paragraph 19 generic bundle page 201). Broadly he adhered to this in his oral evidence. At times during cross examination he suggested that at times it might have been 2 boxes in 3 or 4 days, but without doubting the honesty of Mr Hurley I was able to observe both him as a witness and the manner of his answers. I had the strong impression that insofar as he departed from what he said in his witness statement, to a greater estimate of use of staples, he did so warily, and out of concern that if he were to answer in confirmation of his witness statement, he might (because confirmation of that witness statement was being sought on behalf of the Defendant) in some way weaken his case. I prefer, and on the balance of probabilities accept as reliable, his estimate set out in his witness statement, in other words of the equivalent of some 10,000 staples per day during design and development work.

15. During the course of his shift in production work he would use a staple gun “for about 6 hours per shift” (witness statement paragraph 10 generic bundle page 199) as well as using a drill for about 1 hour per shift. In essence he adhered to this in oral evidence.
16. He, and other witnesses employed by the Defendant, were seeking to cast their minds back over some years. However the general picture described by Mr Hurley, of having a staple gun in his hands for most of the time during a shift, subject only to an hour on the drill, breaks, and the quite modest time involved in using the Hartco gun used to fire wire linking springs (merely 10 or 20, on either side of a sofa) fits well with his estimate of 6 hours use per day of the staple gun during the production line employment. Likewise, the repeated fitting up, stripping and re-fitting of development and design pieces, as the only upholsterer working with the design team or designer, accords well with his description of 4 hours per day with the staple gun on that work.
17. In assessing Mr Hurley’s exposure to vibration, expressed in scientific terms, Mr Glendenning took Mr Hurley as having used about 20,000 staples a day during his employment on production work, and 10,000 staples per day while employed on design work.
18. Mr Glendenning had the advantage of being able to measure vibration on use of a staple gun which was owned and retained by a Mr Howe, who had been formerly employed by the Defendant. The reliability of his measurements was not challenged. Mr Glendenning was a careful expert witness. There is no reason to doubt the reliability of this assessment, or his arithmetical application of it to the number of staples used. Calculation by reference to the number of staples used has significant advantage, compared to calculation on the basis of hours worked holding a staple gun, in that only a part of the time holding the staple gun is “anger time”. (It is well recognised by experts in this field, and the HSE has published research, which shows that men using tools, in this context, habitually refer to time involved with or holding the tool, as opposed to the time involved in dynamic use and vibration, illustratively in one HSE study by 2.48 : 1). As Mr Glendenning confirmed in oral evidence, calculation by reference to the number of staples used is the most reliable way to assess exposure to vibration, and is better than reference to time because, with staple gun impacts being a succession of isolated occasions, the actual firing time is what matters.
19. It will be noted that Mr Glendenning assumed use of 20,000 staples per day in production work, namely fully twice the number of staples per day used on development and design work.
20. Since staple gun time was 6 hours per day on production line work, and 4 hours a day on design and development work, on the evidence of Mr Hurley which I accept, the time involved with a staple gun during work on production is not twice as much as that during work on design and development. It might be argued that 20,000 staples is therefore a high figure. In addition, Mr Collier, who also worked on design and development work, told me that he

used about one box “a week”. In written closing submissions Counsel for the Defendant suggested that by this alone it was necessary to revise downwards the calculations made by Mr Glendenning in respect of Mr Hurley. However, as I have related, there may have been similarity of experience but not identity of work experience for Mr Collier; with the possibility of variation between different companies within the group or in particular different design and development teams. As to the comparison between 6 hours and 4 hours, it was clear from the evidence both of Mr Hurley, (and indeed it was the burden of questions to him for the Defendant) and of Mr Collier that work on the design and development side was less intense for the upholsterer than that on the production line, although it is fair to the Defendant to record that Mr Hurley himself was cautious as to how less intense the experience was. Mr Hurley finished his employment, in design and development, as late as 2005.

21. On the balance of probabilities I find that Mr Hurley during design and development was using 2 boxes in 4 days on average, or 10,000 staples a day. In respect of production line work, it may be that Mr Glendenning’s assumption of 20,000 staples per day is at the high end. For instance, I note that Mr Lyndon Taylor who was also called in evidence stated that he would “regularly use 15,000 number of staples each day” witness statement paragraph 6 generic bundle page 213). On the other hand Mr Cairns-Jones in his witness statement said of production line use that he was using 20,000 staples a day. It is true that he agreed in cross examination that “I can’t put my hand on my heart and say that it was 20,000”, whilst in re-examination was willing to say that 20,000 was at the bottom of the table. The latter answer appeared to me to be forensically aware. I have no reason to doubt his estimate of 20,000 per day was honestly made. Mr Collier, a witness of commanding honesty, stated (as to work on the production line), “it was commonplace to have a box of staples which contained 20,000 and to use on average one box per day. By that I mean that some days you may use more than one box some days slightly less, but on average one box a day is not unusual at all”. To some extent, the assessment of evidence in a case such as this, stretching back over many years of employment and men’s recollection of what may not have seemed important to them at the time, is impressionistic. On the balance of probabilities I am willing to accept that Mr Hurley on the production line was using of the order of 20,000 staples per day on average, but I am satisfied on the balance of probabilities that it is most unlikely to have been more than this.
22. Mr James. I take his case briefly, since it emerged (see below) that his condition cannot be one of HAVS. He usually worked on backs and seats, from 1974 to 1995; from 1995 to 1998 usually on arms; and from 2001 to 2004 on finishing off work. He equally was clear that the main tool used by him was a staple gun. In his witness statement he put it, “it is difficult to estimate exactly..... some days you would use more that others but on average I would say you would use one box of staples a day and one box contained 20,000”. This is broadly in accord with , and has helped to support, the evidence I have accepted as to the scale of use of staples by Mr Hurley during his employment on production work.

23. Expression of exposure of the Claimants to vibration in scientific terms. Mr Glendenning calculated that “if, on production work, Mr Hurley installed 20,000 staples [in a day] then his dominant axis exposure would be 0.75 m/s²A(8). For development work (10,000 staples per day) his average exposure would be 0.5 m/s²A(8) from the stapler.” (report 3.13 at generic bundle page 114). There was no challenge to this calculation.
24. Since Mr Hurley referred to use of the drill for some 1 hour a day, adjustment needs to be made for that. Mr Glendenning reported that in his opinion “if use of the drill is included (at 3 m/s² for 50% of the recorded time see preliminary report) the overall exposure becomes 1.0 m/s²A(8) for production and 0.9 m/s²A(8) for design and development.
25. Mr Smith in evidence asserted that the measurement of 3.0 m/s²A(8) for the drill was too high and that a lower value should be put in. However Mr Glendenning told me that he had measured “dozens” of drills for materials of this sort; Mr Smith was somewhat variable in his criticism saying at one point that the measure of 3.0 was “a little high” and at another “very high”. He did not himself purport to produce measurements of such a drill. Mr Glendenning was a careful witness who impressed me. In these circumstances I accept the calculations of Mr Glendenning as being robust.
26. Mr Glendenning, at the magnitudes and rates recorded by measuring the tools of Mr Howe, calculated that if on production work Mr Hurley installed 20,000 staples (a day) then his dominant axis exposure would be 0.75 m/s²A(8) and that for development work (10,000 staples per day) his average exposure would be 0.5 m/s²A(8) from the stapler (report paragraph 3.13 generic bundle page 114). “If use of the drill is included.... The overall exposure becomes 1.0 m/s²A(8) for production and 0.9 m/s²A(8) for design and development” (emphasis supplied). For completeness, in the case of Mr James, if he was installing 20,000 staples per day, Mr Glendenning likewise concluded that the vibration exposure estimate of 0.75 m/s²A(8) dominant axis would apply.
27. As a matter taken out of turn, does Mr James have HAVS? No. It became apparent immediately at the conclusion of the evidence of Mr James that the condition of which he complains could not be attributed medically to excessive vibration. This is because his oral evidence was that his condition had continued to deteriorate in the period following giving up work for the Defendant. He was not using vibrating tools of any sort. I find on the balance of probabilities, in accordance with what he told me, that his condition continued to deteriorate until a couple of years ago, namely until 2008. This is incompatible with a diagnosis of HAVS. The reason for this is that damage by vibration is dose related. If symptoms continued to develop and worsen, without any exposure to a dose of vibration, it is consistent with idiopathic source. In closing submissions, it is conceded on behalf of the Claimant that Mr James cannot establish medical causation, or liability. Such was clear at trial but counsel for the Claimant wished to keep the evidence in the case of Mr James “live” until conclusion of the trial.

28. Mr Glendenning's figures, related above, are for dominant axis exposure to vibration. As the experts agreed in their joint statement, and Mr Glendenning repeated in oral evidence, the effect of any element of 'shock' or 'impact' vibration cannot be quantified. Thus whilst Mr Glendenning had offered the caution that his figures "take no account of the effect of impact vibration" (paragraph 3.13 generic bundle page 114) there is no adjustment which I can properly make on the evidence before me to these figures.
29. It is convenient here to set out certain matters which were agreed between the engineering experts.

"2.1 we agree that risk associated with exposure to Hand Arm Vibration depends on

- (a) the magnitude of the vibration, and
- (b) the duration of the vibration exposure.

If these factors can be estimated then a vibration dose (A(8) value) can be calculated and compared to figures which give an indication of the relevant risk of developing HAVS. Other factors also have an inference on the level of risk, but it is not possible to quantify these. The other factors include the grip applied to the vibrating surface, the pattern of exposure, temperature and individual susceptibility.

2.3 we agree that

- (a) *regular exposure to vibration at or in excess of 1.0 m/s²A(8) is associated with a potential risk of vibration related injury*
- (b) *exposure below 1.0 m/s²A(8) would not usually be associated with a risk of developing vibration related injury (although Mr Glendenning notes uncertainty in relation to impact vibration relevant to this matter as discussed in his reports).*
- (c) An action level of 2.8 m/s²A(8) was set by the Health and Safety Executive (HSE) and applied in the period 1994 to 2005. The information on which the action level was based was originally published in BS6842 in 1987. The action level was not intended to define a completely safe level of exposures".

(Emphasis supplied).

- (ii) What guidance was there to employers, and ought these employers to have been aware of the guidance, if so from what date, and what steps were required according to such guidance?
- (iii) Were the employers in breach of duty in failing to heed or act upon such guidance?

30. It was common ground between the Claimant and the Defendant in this case that the test for breach of duty was correctly expressed by Swanwick J in *Stokes –v- GKN (Bolts and Nuts) Limited* 1968 1WLR1776 at page 1783

“from these authorities I deduce the principles that the overall test is still the conduct of the reasonable and prudent employer taking positive thought for the safety of his works in the light of what he knows or ought to know.....He must weigh up the risk in terms of the likelihood of injury occurring and the potential consequences if it does and he must balance against this the probable effectiveness of the precautions that can be taken to meet it and the expense and inconvenience then involved. If he is found to have fallen below the standard to be properly expected of the reasonable and prudent employer in these respects he is negligent”.

31. I take first guidance as to risk of injury from vibration specifically.
32. In 1975 DD43 was published (Guide to the evaluation of exposure to the human hand-arm system to vibration). This was a “Draft for development”, not a British standard (see generic bundle page 249). There was no significant exploration of this document in evidence at trial or in submissions. There is nothing in it which suggests to me unassisted by particular evidence that it could or should have been taken by employers in the upholstery/furniture industry as being a source useful to them or which they should consult.
33. I turn out of caution to consideration of that document in the authorities.
34. In *Brookes –v- South Yorkshire Passenger Transport Executive* 2005 EWCA Civ 452 stated

“when we examined the relevant evidence for ourselves, we conclude that there was insufficient evidence to support the conclusion that the appellants ought to have been aware of DD43 in 1975 or even shortly thereafter. We note the absence of any evidence of how and to what extent DD43 was publicised and discussed or written about in trade publications. We note the absence of evidence of a connection between the appellants and the organisations represented on the Committee. We note that DD43 did not promulgate a British Standard; it gave provisional advice and called for contributions to the advancement of knowledge on the subject of VWF. We do not think that, in the absence of evidence, we could properly infer that DD43 must have been widely discussed at health and safety conferences or written about in trade journals which the appellants ought to have read and heeded. In our view, bearing in mind the duty of the reasonable employer, as set out in *Stokes and Thompson [-v- British Ship Repairers* 1984 QB405 at page 415], it is not reasonable to conclude that the appellants should have been aware of DD43 in or about 1975”.

That case entailed the regular use of vibrating tools, in particular pneumatic impact wrenches, chisels, drills, saws and grinders. I remind myself that factually it is a different case. (If anything, it was a more promising – or less unpromising - case for a Claimant). Otherwise, I find myself in the identical position to that of the Court of Appeal in that case.

35. I note also the judgment in Doherty and others –v- Rugby Joinery CA UK 2004. It observes that this document makes clear that it is only a Draft for Development, i.e. of a provisional nature, because the state of knowledge of the effects of exposure to vibration generated by hand held tools did not yet enable definite conclusions to be reached concerning safe maximum vibration levels for those tools; and that it proceeded to express the intention that, when sufficient knowledge had been accumulated, a British Standard would be published on the subject. [paragraph 10]. Not only was it a provisional document, but on its face it betrays little if anything to suggest that upholstery or furniture manufacturers should have been aware or given notice to it.
36. In 1987, BS6842: 1987 was published: a British Standard Guide (to “measurement and evaluation of human exposure to vibration transmitted to the hand”).
37. I record here that it stated

“it appears that, with normal tool usage, symptoms do not usually occur if the frequency weighted accelerations below about 1 m/s²rms” (page 11 at generic bundle page 337).

This document was also the source of the “action values” of 2.8 m/s² in that it identified that if men operating vibrating tools were exposed for 8 hours a day to frequency weighted vibration accelerated magnitudes of 2.8 m/s² rms, one may expect to produce finger blanching in 10% of persons exposed over a period of 8 years.

If one scrutinises that same table with an expert eye, it shows that finger blanching in 10% of persons exposed may be expected at a frequency weighted vibration acceleration magnitude of 1.4 m/s² over 16 years of 8 hourly daily exposure, and that there is a simple arithmetic progression in the table such that one might suspect or deduce that over a very long time, e.g. 32 years, exposure to frequency weighted magnitude of acceleration of less than this would suffice at proved symptoms of 10% of the persons exposed. This was faintly touched upon during the course of oral evidence from the experts; but is not a point which was developed in any of the literature, or which I would expect to be evident to the ordinary reasonable diligent enquiring employer.

Further Mr Glendenning agreed in oral evidence

“[that] exposure below 1.0 m/s²A(8) would not usually be associated with the risk of developing vibration related injury, and

Q. An employer would normally conclude that there was no risk to his employees at that level? A. Yes, subject to the fact of impact [but I have noted in the judgment above that is an unquantifiable matter by agreement between the experts and is not the subject of qualification or caution to employers in any of the literature or guidance to which my attention has been drawn]

Usually, exposure above 1.0 m/s²A(8) is typically used to rule in risk, and exposure below 1 is typically used to rule out risk.

38. From 1987, in respect of the specific risk from vibration, BS6842:1987 was substantially the only guidance to employers as to quantum of permissible exposure until 2001. And only in 2005, with the Control of Vibration at Work Regulations was there further guidance or restriction in the recommended vibration.
39. For employers who ought to have been aware of it and the guidance within it., BS6842:1987 was an important document.

“[It] was of far greater significance for employers that DD43 had been. It promulgated a British Standard. It was published against the background that VWF was now a prescribed industrial disease. Although there is an absence of evidence of the extent to which BS6842 was disseminated or discussed in trade journals, we consider that an organisation of this size with the resources of these appellants ought, in compliance with their duty to keep reasonably abreast of developments relevant to the welfare of their employees, to have had knowledge of BS6842 at or shortly after publication” (Brookes –v- South Yorkshire PTE 2005 EWCA Civ 452 paragraph 21)

Thus in Brookes a date of guilty knowledge of 1989 was accepted by the Court of Appeal in relation to fitters in the transport industry.

In Doherty v Rugby Joinery a date of 1991/1992 was upheld in relation to the woodworking industry. The Court was careful to say that the case should not be treated as authority for the proposition that the date of knowledge of the risk of VWF in the woodworking industry is as a generality as late as 1991/1992 “it holds simply that these particular employers were not in breach of their common law duty of care towards these particular employees in failing to monitor them for symptoms of VWF until that date” (Hale, LJ paragraph 44 and Auld, LJ at paragraph 57). In that case, the Judge, who decided date of knowledge in that particular case was 1991/1992, was able to rely from the evidence of Mr Beauchamp an engineer expert that the industry was unaware of any such problem until 1991/1992.

40. In the present case Mr Glendenning and Mr Smith were scrupulous to leave such matters to the decision of the Court. I am therefore thrown back on the text of the documents themselves. I have cited above from BS6842 published in 1987. The introduction refers to vibrating tools, vibrating machinery or vibrating workpieces. In its text refers to a vibrating appliance work piece handle or control or device grasped by the hand. Unless an expert in the field points me to some different understanding, I do not and would not have expected an alert and enquiring employer in the position of the Defendant to understand such “vibrating” tools or appliances to refer to or naturally include a staple gun, or therefore to understand that document to be relevant guidance for its own processes.
41. HS(G)88 was written in 1994. (It was this which for the first time positively set out an “action level” of 2.8m/s²A(8) for measures to be instituted to lessen exposure to vibration and/or take other measures to reduce risk). The list of tools included in HS(G)88 includes reference to “any vibrating tool.... Which causes tingling or numbness after five to ten minutes of continuous use is suspect” (generic bundle page 262) In the text it states,

“It is safest to regard any prolonged use of any high vibration tool or machine as suspect, especially if it causes tingling or numbness in the user’s fingers after about 5 to 10 minutes continuous operation. Also where any vibrating equipment is regularly used, employers should remain alert for symptoms among the workers....” [shortly before this there is reference to “percussive metal working tools” “percussive tools used in stone working, quarrying, construction etc” “grinders and other rotary tools” and “timber and wood machining tools” these being stated to be “chain saws, brush cutters (clearing saws), hand-held or hand-fed circular saws, electrical screwdrivers, mowers and shears, hardwood cutting machines, barking machines and strimmers”]

I would not read these as referring to staple guns and neither expert in evidence before me stated that I should so read it. The earliest reference to nail guns appears to be 1997 when according to Mr Glendenning an information sheet from the HSE was published “Priorities for the Woodworking Industries”.

42. As to date of knowledge, Mr Glendenning acknowledged that date of knowledge would be a matter for the Court to consider but reported

“5.34 with regards to HAVS, the employer’s date of knowledge has generally been set at either

- (a) the early to mid 1970’s (for large employers where the sources of exposure were clearly connected to the risk), or
- (b) the late 1980’s to early 1990’s (for smaller employers and/or exposure sources where the risks were less readily appreciated).

5.35 the tools used by the Claimants would fall into a class where in my view the risks would be less readily appreciated.”

His own view was that in practice, the risk of chronic injury to the hands and arms in this industry is more readily associated with risk factors for upper limb disorders and “it is likely that in practice, employers in this industry did (or should have) become aware of risks in that context prior to awareness of HAVS risks. Further in practice, I would anticipate and believe that it would have been appropriate for an employer in this industry to consider vibration as a subsidiary due to work related upper limb disorder risks, rather than as an issue in its own right” (preliminary report 5.37 generic bundle page 28).

43. This appears to be an acceptance that knowledge in the Defendant’s industry of risk of injury specifically from vibration was not to be expected before the late 1980s or early 1990s. It may be that in another case evidence would be led of knowledge, or circulation of materials which ought to have alerted an employer in this industry to the possibility, of the risk of injury from vibration. For the avoidance of doubt, in the 1987 document BS6842 1987, I was not referred during the course of evidence or submissions, nor could I find on scrutiny myself, text or material which in my judgment should have alerted a furniture industry employer whose employees habitually used staple guns of the relevance of that guidance to its own processes. Illustratively only, the Introduction to BS6842:1987 states

“intensive vibration can be transmitted to the hands and arms of operators from vibrating tools, vibrating machinery or vibrating work pieces. Such situations occur, for example, when a person uses tools such as pneumatic, electric, hydraulic or engine driven chain saw, percussive tools or grinders.”

This does not to me naturally suggest to employers of men using staple guns that they were tools contemplated by this document. In the evidence before me, the first mention specifically of HAVS risk associated with nail guns is in the HSE information sheet “priorities for the wood working industries” published in 1997 (see paragraph 5.36f preliminary report of Mr Glendenning page 28 at generic bundle page 28).

44. Date of knowledge is a matter for the Court based on factual evidence if any, as both experts acknowledged. Doubtless for this reason Mr Smith did not in his own report address this aspect at all. Nonetheless Mr Glendenning in particular, is an expert with considerable knowledge and experience of this field. I would have expected him to be able either to direct me to sources of published guidance which would have alerted furniture industry and employers to the relevance of vibration or HAVS risk avoidance guidance, or to be able to guide solicitors for the Claimant to sources of such information, if such had existed prior to 1997. There is no such evidence. I am unable to find on the balance of probability (or at all) that even a substantial employer in this industry such as this Defendant was, should reasonably have been alerted to risk of injury from vibratory tools used in its processes.

45. Guidance as to WRULD more generally. The Defendant, at least in its heyday, employed over 1,000 employees. It was a substantial employer.
46. Thus guidance note MS10 from the HSE “Beat conditions, tenosynovitis” is a document, and guidance, of which the Defendant ought to have been well aware. Upholstery work was an industry where “rapid, repetitive, twisting and gripping movements” were common and was “assembly line work”. It was thus an industry where the risks of tenosynovitis were to be considered (see above), and see MS10 (at generic bundle page 72). In addition, there was some evidence that employees wore support bandages and tubigrips on their wrists and elbows, which would have been open to the Defendant to notice.
47. The submissions for the Defendant acknowledged that a risk of WRULD arose from work as an upholsterer or from work in design and development.

“Although it is apparent that some attention was paid to this risk – see the document at generic bundle 181 – the Defendant is now wholly unable to adduce evidence as to steps taken to address the risk in the premises the Court is bound to conclude, on this evidence, that insufficient steps were taken to address the risk. A finding of breach of duty cannot realistically be resisted after publication in 1990 of HS(G)60” (closing written submission for the Defendant).

48. The closing submissions of the Claimant thereby contend that

“The Defendant should have taken preventative steps to reduce the risk of injury from their working methods. MS10 only advised that there should be “cessation of occupation” and “immobilisation of the affected part” but given the prevalence of problems amongst their workforce, the Defendant should have investigated the position and taken further action to prevent injury”.

49. In the 1977 document, HSE Guidance Note MS10, I readily see guidance and warning signs as to tenosynovitis I respectfully can find none as to risk from vibration.
50. The next significant document was that published in 1990, HS(G)60. Ought this to have alerted the Defendant to risk from use of staple guns? Here at least there is reference, albeit passing, to vibration:

“E. Tool and equipment factors.....

(ii) do the tools vibrate, without having a vibration absorbing grip? A vibration at particular frequencies is associated with vascular problems and could affect muscle and tendon blood supply, exacerbating force and motion problems.

(iii) do the tools impose shock loading upon the user? Hammers etc. if used inappropriately may generate shock loadings which, by reflex action can cause increases in muscle tension as well as imparting mechanical loads to the wrist and hands.....

- (vi) is considerable pressure required to hold or operate the tool? Pressure can cause compression of tissues in the hand or wrist unless handle design is perfect. Pressure also represents an additional static load on the arm muscle”.....
- (xix) avoid equipment and/or tools that transmit vibration to the hands.

Mr Smith expressed the view that this document HS(G)60 made only vague reference to vibration and pointed out that there was no reference to BS6842 or any other document referring to vibration. In my judgment, this document does not on its face itself alert the prudent or reasonable employer to a level of vibration by reason of the use of tools in its processes which may be unsafe.

51. In closing submissions, the Claimant argued that the Defendant should have taken steps to reduce the risk of WRULD as specified by Mr Glendenning at paragraph 5.45 of his preliminary report (generic bundle page 30). What he there said was,

“with regard to WRULD risks, the risks should have been considered and actions taken to reduce risks exposure by reference to the available guidance, in particular that given in HS(G)60. Particular issues that should have been considered would include

- a) work rotation and breaks
- b) piece work and bonus systems
- c) forces applied to the hand/arm system involved in the work
- d) wrist postures
- e) degree of repetition
- f) tool design (including exposure to shock and vibration)
- g) grip type supporters
- h) ambient temperatures
- i) factors relating to individual personnel”.

It is argued that “all the steps would have helped reduce risk of injury. Particularly important factors were work rotation and breaks.Different risk factors apply to different jobs e.g. more vibration on arms, less on other jobs; more awkward postures on inside backs or less on finishing off; more stretching if working on leather less on other fabrics; more repetition of tasks on arms and on finishing off”.....Other steps would have reduced the risk of injury. Consideration should have been given to changing payment by piece work; more useful tools for stretching fabrics; instructions in relation to postures and force; and alteration to working methods to reduce awkward movements” (closing submissions).

52. My difficulty with all of these suggestions is twofold. First, I am unable to identify in the published guidance any specific reference to the need or desirability of these steps in relation to the use of tools such as staple guns. Even if the employer were inquisitive as to risks from WRULD he would have been alerted to no guidance as to risk specifically from vibration. Secondly, no evidence called before me satisfactorily establishes those measures, which

may have been singularly apt to reduce or prevent other forms of upper limb disorder, would have had effect in relation to reducing or preventing injury from vibration from the staple guns.

53. It is suggested that the evidence of Mr Smith is supportive in that he stated

“As I consider to be implicit in its name, HAVS is a condition brought on by exposure to vibration, although it has long been recognised, in my opinion, that other factors can contribute to the condition. Those factors include the push, grip and other forces used to guide and apply the tool, quite simply the tighter the tool has to be gripped, the greater the magnitude of the vibration from the tool that will be transmitted into the hand that will be holding the tool.....” (report paragraph 10.2.3 Hurley bundle page 247, as cited in closing written submissions for the Claimants).

54. However, immediately following this passage cited in the written closing submissions, Mr Smith stated

“I can accept that having to hold the tool at awkward angles relative to the work piece will involve the tool being gripped more tightly than if held normally and with the hand at, such as, the ‘position’. Although when measuring tool vibration levels the accelerometer is normally attached to the body of the tool and hence the measured level will be reasonably representative of the maximum that may be imparted to the hands. So that in my opinion, the measurement system therefore tends to take account of high grip forces”.

Indeed he added

“10.2.4 further, and in any event, as said in the HSE book HS(G)88, there is only limited scientific information on the importance of these additional factors and the way in which they interact.

10.2.5 Accordingly, whilst an employer may be aware of such factors, in considering the overall risk of an employee developing HAVS there was, in my opinion, no basis on which to take those other factors into account, the method of assessing the risk being, and remaining, to look at the vibration exposure and compare it against the guidance published” (Hurley bundle page 248).

55. In my judgment, therefore, the evidence of Mr Smith when fully quoted, does not advance the Claimants contention in the way that the more limited passage cited in written closing submissions would suggest.

56. It is perhaps helpful to address here, strictly speaking out of turn, medical evidence as to causation on which the Claimant seeks to rely.

57. The Claimant’s medical expert was Mr Tudor Davies. His report was dated 25th July 2007. In a supplemental letter dated 14th July 2010, he stated

“It is the Claimant’s account that there was no provision for any job rotation or any rest periods to minimise the potentially harmful effects of occupational vibration. These are again matters for the Court. I remain firmly of the opinion that Mr Hurley has been exposed to hand/arm vibration probably aggravated by other physical forces and that my diagnosis of HAVS is correct.....”.

In relation to Mr James, Mr Tudor Davies in a supplementary letter equally dated 14th July 2010 “the work as described involved an extraordinarily high rate of firing of the staple gun, also awkward postures that demanded a forceful grip in order to control equipment. It is obvious that the tighter the grip on the stapling tool, the greater will be the vibration energy transferred into the biological tissue of the worker’s hand and distal upper limb.

However, he made clear that “Measurement of the frequency, force and direction of the vibration energy (sic) is a matter for a Forensic Engineer. Other factors mentioned above such as grip and repetition are matters for an Ergonomist).....

(He continued, returning to Mr James’s symptoms and disability..... the description of vibration exposure, impact vibration and the physical demands of his job involving force, tight grip and awkward posture, repetition and prolonged duration throughout the working shift, ‘strongly indicates’ that these factors are inter-related and ‘may’ all have contributed to the development of his HAVS. “In summary Mr James is suffering from HAVS which, on the balance of probabilities, I entirely attribute this occupational exposure to vibration, impact vibration and the bio-mechanical forces peculiar to a worker in the upholstery trade” (bundle J page 96).

58. Counsel for the Claimant fastens upon the latter of these passages in his written closing submissions submitting that the Defendant should have taken steps to reduce the risk of WRULD as specified by the Claimant’s expert Mr Glendenning (at generic bundle page 30 paragraph 5.45) and that “the taking of these steps would have reduced the likelihood of HAVS”.

59. It is clear from the full citation that I have made from the comments of Mr Tudor Davies that he contemplated that posture or force might increase the transmission of vibration to the worker, but he deferred to the engineering or ergonomic expert to consider this matter. The medical experts agreed that they were not experts in matters of engineering and that it was for the Court to decide on the relevance of the impact vibration (joint statement Hurley bundle page 129).

60. Mr Glendenning drew a clear distinction between the risks of developing WRULD and of developing HAVS:

“3.19 in conclusion, in my view, the work of both Mr Hurley and Mr James during their employment with the Defendant was associated with:

- (c) a significant risk of developing a work related upper limb disorder.
- (d) a low risk of developing HAVS” (generic bundle page 115, also at paragraph 6.2 page 118).

“.....my vibration exposure estimates suggest A(8) values claims of the order of 1.0m/s²A(8) for Mr Hurley and 0.7m/s²A(8) for Mr James. These estimates are subject to significant uncertainty and do not take any account of the effect of impact vibration. In view of this I remain of the view that the Claimants’ work is likely to be associated with a low risk of developing HAVS, despite the exposure estimates being at or below 1.0m/s²A(8) the level below which risk is usually regarded as insignificant (paragraph 6.3 generic bundle page 118).

61. Moreover Mr Glendenning had noted in his report Mr Hurley’s account of use of awkward postures when using the staple gun, and Mr James’ account of being stuck in one job when working in teams suggesting an absence of work rotation (paragraphs 3.10 and 3.15 generic bundle page 113 and 114). First, it appears to me that Mr Glendenning made his assessment of the degree of risk from exposure to vibration having taken account of these matters. Second, it appears to me that if there is a risk of injury from exposure to vibration, which risk is assessed and quantified by the ergonomic expert, one cannot “leapfrog” it to a higher level of risk by reference to the risks of WRULD more generally, at least unless the expert engineering evidence supports an increased likelihood of injury by reason of posture repetition etc. or a material contribution to risk of injury from exposure to vibration by reason of posture lack of rotation work, etc. In reviewing the report of Mr Glendenning, or his oral evidence, I am unable to identify material which establishes such.
62. I am unable to conclude that on the balance of probabilities the Defendant should have been alerted to the risk of injury to its workforce by vibration from use of the tools employed in its processes before 1997, when it is specifically identified in relation to woodworking industries (see above). The furniture industry is not a woodworking industry in itself but the Defendant was a large scale employer and – bereft of much if any evidence on the dissemination of the document identified by Mr Glendenning – I would be inclined to hold that the Defendant should reasonably have been aware of that guidance, with its specific reference to nailguns, within a modest period thereafter. That guidance included HS (G) 88. If the Defendant had then made enquiry, and taken advice, it would have found the guidance expressed by the engineer experts in their joint statement quoted above at paragraph 29 above.
63. Mr Hurley was then employed on design and development. His averaged exposure was 0.9m/s²A(8). The joint agreement of the experts here is that, “*exposure below 1.0 m/s²A(8) would not usually be associated with a risk of developing vibration related injury* “. Further as I have recorded above (at judgment paragraph 37) Mr Glendenning expressly agreed in oral evidence that exposure below 1.0 m/s²A(8) would not usually be associated with the risk of developing vibration related injury, and that “Usually, exposure above 1.0 m/s²A(8) is typically used to rule in risk, and exposure below 1.0 is

typically used to rule out risk”. So far as available guidance as to HAVS is concerned it follows that I cannot find that the Defendant was in breach of duty as of 1997/1998 (or before) and I did not understand any different contention to be advanced as to the guidance or knowledge available to the Defendant after say 2001 or 2002.

64. There was exploration of whether an employer ought to warn employees to report symptoms if the exposure were close to or almost equivalent to $1.0\text{m/s}^2\text{A}(8)$. That does not arise for decision in this case. It seems to me undesirable that I should purport to make judgment on hypothetical cases. I will simply express potential sympathy for the view that a prudent employer should, if it should have been armed with the relevant guidance, warn if the exposure of its employees were at or broadly equivalent to $1.0\text{m/s}^2\text{A}(8)$. This is also a view to which Mr Smith appeared to soften during the course of his evidence having initially proposed a cut-off point at any measurement below $1.0\text{m/s}^2\text{A}(8)$.

(iv) Does the Claimant establish HAVS, namely causation medically of the condition of which he complains by the exposure to vibration?

65. In the case of Mr James, the answer is “No”: see above.

66. In the case of Mr Hurley, his exposure to vibration was of the order of $1.0\text{m/s}^2\text{A}(8)$ from 1973 to 1987 while employed on production and $0.9\text{m/s}^2\text{A}(8)$ from 1987 to 2005. It is true that Mr Glendenning agreed that exposure “below” 1.0m/s would not “normally” be associated with the risk of developing vibration related injury (see above). But the symptoms of Mr Hurley are consistent with HAVS if the exposure to vibration is sufficient. He had significant exposure to vibration over a total period of 32 years. (For the record, his exposure was been significantly greater year by year than that of Mr James). Mr Glendenning was careful to adhere to his view that there was not a “safe” level of exposure to vibration in fact.

67. It is one thing to acquit an employer of guilty knowledge, in that the Table in BS 6482:1987 needs an expert eye to see the pattern of increased risk of injury, even with lower intensity of vibration than that recognised to warrant warning to employees; but another to ignore that pattern in reaching a judgment as to medical causation in fact. It is notable that symptoms first appeared in 2002 after many years of exposure, the first 14 years of which were at a level which would have warranted warning to report symptoms if the application of the guidance to this industry had been appreciated, based on the risk of injury. It appears to me probable on the medical evidence both individual of Mr Tudor Davies and joint in the memorandum of agreement and disagreement between the medical experts that the symptoms from which Mr Hurley suffers are caused by exposure to vibration. The pattern in the Table at table subtly reinforces my conclusion.

(v) Does the Claimant establish legal causation by failure to heed or act upon available guidance? Alternatively in that some injury was foreseeable albeit not specifically HAVS? Alternatively in that there was material contribution to his injury by failure to act?

68. As will be apparent I do not consider that legal causation is established by failure to heed or act upon available guidance as to the specific risk of injury from vibrating tools. The Claimant argues that the injury was “Hughes v Lord Advocate foreseeable” given a foreseeable risk of WRULD, and/or that he succeeds because of “material contribution” to his injury by breach of duty either freestanding in logic or by reference to Griggs v Transco a decision of the Court of Appeal.

69. Foreseeability of some injury. The Claimant argues that WRULD by reason of the work practices and processes of the Defendant was foreseeable; the Claimant has suffered injury by exposure to vibration by reason of the work practices and processes of the Defendant; and that therefore the injury of which he complains was foreseeable. The precise concatenation of circumstances whereby injury is suffered need not be foreseeable.

70. In Hughes –v- Lord Advocate 1963 2WLR 779, Lord Reid stated at page 6:

“So we have (first) a duty owed by the workmen, (secondly) the fact that if they had done as they ought to have done there would have been no accident and (thirdly) the fact that the injuries suffered by the Appellant, though perhaps different in degree, did not differ in kind from injuries which might have resulted from an accident of a foreseeable nature”.

71. In general, the formulation by the Claimant seems to me a large leap too far. It is trite that if injury ought to have been foreseen, the fact that the precise concatenation of circumstances which course it need not be foreseen. However that does not release the Court from the task of deciding whether the injury in question was foreseeable; and the formulation by Lord Reid itself looks to a contextual consideration of whether injury should be regarded in law as foreseeable by reference to that which employers “ought to have done”.

72. In Hughes –v- Lord Advocate the risk from an unguarded paraffin lamp was that the Claimant might be burned and it mattered not that the burns were suffered because the lamp exploded. In Jolley –v- Sutton London Borough Council 2001 WLR 1082 HL, the Defendant was liable because the type of accident which in fact occurred, injury from the allurements of an unsafe and rotten abandoned boat was reasonably foreseeable. If the Defendant here had addressed the risk of injury from vibration from staple guns, or enquired of the risk arising from the foreseeable risk of WRULD in general, it would not (on my findings) have been alerted to the risk of injury from vibration from the tools used in its processes. It is inconsistent with this to find the risk of injury in question to have been (prior to 1997/1998) foreseeable.

73. It is conceded by the Defendant that a finding of breach of duty in respect of risk of WRULD cannot realistically be resisted after publication in 1990 of HS(G)60 (closing submissions paragraph 10). Counsel for the Claimant contends that in any event, HAVS was a foreseeable injury. “It is similar in kind to the type of injury which was foreseeable from this type of work (Munkman page 524 paragraph 19.09).
74. At paragraph 19.09, the authors of Munkman, accurately in my view, record that the cases decided on work related muscular-skeletal disorders have regarded strains and sprains in the forearm, hand and wrist as belonging to the general class of injury that one might foresee from repetitive tasks involving the frequent use of the muscles of the hand and forearm, and often the application of force through the hand and fingers.
75. The authors go on to quote Judge Byrt Q.C. in *McSherry –v- British Telecommunications plc* 1993 Med LR129 at 134
- “...I am satisfied that the Defendants should have been aware that bad posture could cause musculo-skeletal problems. The fact that the injuries sustained were more extensive than those they might have envisaged is of no consequence in law”.
76. With this formulation I respectfully agree. The authors of Munkman continue, “an identical approach was taken by the Court of Appeal to hand-arm vibration syndrome cases in *Griggs –v- Transco plc* 2003 EWCA Civ 564. I am respectfully unable to deduce from *Griggs –v- Transco* the general principle which the Claimant seeks in reliance on it or on the text of Munkman.
77. In that case it was agreed that the magnitudes of vibration experienced by the Claimant while employed by the Defendant were sufficient to cause vibration induced white finger and that the duration of exposure was sufficient to present a foreseeable risk of the Claimant developing induced white finger. Accordingly the Defendant admitted breach of duty.
78. The particular condition from which the Claimant suffered, and in respect of which he claimed, was palmar arch disease (PAD). There was some dispute between the medical experts whether the Claimant’s PAD had been caused by vibration. The Judge considered, on the basis of the Claimant’s expert’s evidence that it was a vibration induced complaint.
79. The evidence included recognition by the experts that vibration white finger (now known as HAVS) included as components circulatory disturbances (vasospasm with local finger blanching – ‘white finger’). In PAD there is damage to the palmar arch, “there are two palmar arches in each hand, superficial and deep, supplied by the radial artery coming up next to the radius and the ulnar artery coming up next to the ulnar. They then give off branches to the fingers. If they are obstructed, the blood supply to the fingers is obstructed” (judgment of Hale, LJ as she then was paragraph 14).

80. Hale, LJ continued

“It is clear that PAD has not hitherto been recognised as part of HAVS. Further the Claimant is suffering from damage to the vascular system in his hands rather than any of the other damage which is a recognised part of that syndrome. But saying that this Claimant’s PAD comes within the scope of HAVS was simply another way of saying that his symptoms are caused by exposure to vibration. The definition of HAVS given by the Health and Safety Executive in their guidance on ‘Hand – Arm Vibration’ (1994 HS(G)88) was this

“in the United Kingdom HAVS is considered to exist if, after prolonged exposure to hand-transmitted vibration, involvement of the vascular and/or peripheral nervous system occurs with or without musculo-skeletal involvement”.

[the Claimant’s medical expert’s] opinion was entirely consistent with that definition” paragraph 23).

81. The legal argument in that case was that the Claimant could not prove that his PAD was caused by guilty, unacceptable, negligent levels of exposure rather than by innocent, non-negligent, acceptable levels. (In HAVS there is a recognised dose/response effect: so much vibration produces so much VWF in PAD it is not possible to say how much vibration produced the damage).

82. The trial judge had found liability. The Court of Appeal observed that “*here we have a global breach of duty in relation to protecting employees from vibration induced disease*”. (emphasis supplied) The Court continued

“Bearing in mind the length and magnitude of this Claimant’s exposure to vibration, as demonstrated by the engineering experts, and the extensive breaches of duty admitted by the Defendant, it is possible to conclude that the but for test is indeed satisfied in this case. If the breach of duty was sufficient to cause one type of vibration induced injury why should it not also be sufficient to cause another?..... In any event even if the but for test could not be satisfied, there can be little doubt that the employer’s failure to have a proper system for detecting and preventing vibration induced diseases materially increased the risk of an employee sustaining such a disease. Once the degree of exposure, the breaches of duty and the medical causation have been established, it would be an unjust legal system which did not hold the employer responsible for what had happened”. (paragraphs 33 and 35, Hale, LJ).

83. That case and decision appears to me to be a very different case from the present case. Knowledge of risk from exposure to vibration was present in that case, and there was clear breach of duty to guard against it. In the present case, the very question in issue is whether there is appropriate knowledge, and/or breach of duty.

84. In its closing submission, the Defendant argues that

“in short terms it is NOT foreseeable that injury from vibration will follow from repetitive arduous work because the injury is peculiarly associated with vibration exposure. Unlike the Council in Jolley say, or the Lord Advocate in Hughes, HAVS was not a matter contemplated as a result of any neglect arising in relation to the arduous repetitive nature of the work”.

I respectfully agree.

85. Material contribution. An allied argument is developed by the Claimant. In the alternative, the Claimant relies on the contention that there was a recognised risk of WRULD, and that the Defendant’s failure to take preventative steps for WRULD has materially contributed to their symptoms or materially increased the risk of the Claimant’s suffering from HAVS.

86. It is contended,

“the test of a material contributions confirmed in Brown –v- Corus 2004 EWCA Civ374, Scott Baker LJ stated at paragraph 48:

“In our judgment *once the position is reached that the Respondents were in breach of duty* in failing to reduce the vibration levels to which these three appellants were exposed causation is established on the McGhee principal. By not doing anything about vibration levels, (and there were a number of things that could have been done) the respondents materially increased the risk that the appellants would suffer from HAVS. Had they taken such steps they would have materially reduced the risks involved. Their failure to do so, in the words of Lord Simon in McGhee, made substantial contribution to the condition from which they suffered. If the respondents should, as in our view they should, have changed their practices this would have reduced the risk of the appellants’ conditions ceased to be symptomatic and began to show symptoms.....” (emphasis supplied).

This proceeds from the premise that the Defendant has been shown to be in breach of duty in relation to risk of HAVS. That is the question which is in issue in the present claim, and is not an assumption to be made in favour of the Claimants’ case. The argument for the Claimant is circular.

87. Alternatively it is said that the Defendant should have taken steps to reduce the risk of WRULD as specified by the Claimant's expert Mr Glendenning (at generic bundle page 30 paragraph 5.45) and that "the taking of these steps would have reduced the likelihood of HAVS". I have dealt with these contentions above, as to the evidence of Mr Tudor Davies; of Mr Smith; and of Mr Glendenning, who specifically differentiated between the risks of WRULD and HAVS associated with the work involved in employment in the present case. Further no claim is made in this case for damages for WRULD, and I have not been able to identify evidence which satisfactorily shows that if steps had been taken appropriate to deal with the risks of WRULD (in respect of which no claim is made) it would have materially in fact diminished the likelihood of injury to the Claimant(s) from exposure to vibration.

Would warning have made a difference?

88. I have found that the Defendant was not in breach of duty in failing to give warning to the Claimant that he should report symptoms if experienced. No warning was given. Nor did he undergo medical screening during the course of his work with the Defendant (Mr Hurley's statement paragraph 35 generic bundle page 204). What if the Defendant were in breach of duty, and should have given warning?

89. Mr Tudor Davies reports that Mr Hurley first noticed symptoms in his hands in 2002. Mr Hurley adhered to this. "I started with tingling in the fingers of both hands. I also noticed that when my hands were cold it was difficult to get them warm..... After I started suffering from symptoms I did not consult my G.P. because I did not consider my symptoms were significant. He had to give up fishing about 2006 or 2007 (witness statement paragraph 40 generic bundle page 204 witness statement dated 12th March 2010).

90. He was seen by Mr Tudor Davies on 5th July 2007. Mr Tudor Davies reported that

"Since around 2002 he has been aware of the problem with both hands. Both hands have been affected by tingling and numbness. This tingling and numbness is maximal in the tips of all his fingers and over the pulp of each thumb. Initially it was intermittent, now it is almost continually present and much aggravated by cold exposure. Also in the cold weather he has noticed that the very tips of his fingers may go white and completely numb. They then tingle severely as they recover to a red colour. At other times, his hands feel excessively cold and often blotchy in appearance. Also over the past 5 years or so [i.e. since 2002] he has experience an aching discomfort in both hands. This is located mostly around the base of his thumbs and also in the knuckle joints at the base of each finger. Despite these hand problems he is coping reasonably well with his work. He does however find that he tends to drop things and fumbles with small articles. He has to take his time when dressing particularly when dealing with buttons, poppers, zips and laces. He drives his

own car but has difficulty with prolonged gripping of the steering wheel on long journeys.” (report 25th July 2007 Hurley bundle page 108).

91. After finishing employment with the Defendant, Mr Hurley took up employment elsewhere in like work.
92. Mr Tudor Davies stated in his report of July 2007 that Mr Hurley continues to be exposed to vibration and in view of the potential for further deterioration he advised that this should cease.
93. In fact, Mr Hurley continued working for the new employer Ashwood Upholstery Company as a development upholsterer “using large staple guns for about 6 hours per shift and power drills for about 1 hour per shift” (witness statement paragraph 34 generic bundle page 204).
94. This raises vividly the question of whether any different course would have been followed, if the Defendant had warned Mr Hurley to report symptoms and/or identify to him the risk of injury to his hand by continuing employment.
95. The Claimant contends that the warning issued by Mr Tudor Davies was very different to the warning Mr Hurley would have been given by the Defendant and that the following considerations are important:
 - (e) the Claimant would have been specifically instructed to report any symptoms by the Defendant. “A failure to report symptoms would have been in breach of his employer’s instructions with potential disciplinary consequences”.
 - (f) The Claimant would probably have been advised by the Defendant that “with the correct treatment the condition can easily be cured” [warning to employees, risk of upper limb disorders, “re-issued April 2nd 1998” Created Upholstery Limited, a company within the Christie Tyler Group, generic bundle page 181].
 - (g) In 2007 “the Claimant was in the position where his symptoms were not getting much worse with continued vibration exposure. His evidence was that his symptoms had reached a plateau in 2005 and deteriorated slowly thereafter”.
 - (h) The Claimant had no real alternative employment options in 2007. He was aged 52 by then with damaged hands. The reality was that he had little option but to continue with his work. “The position would have been very different in 2002”.
96. I regret that I take a different view. His answer in cross examination was that he did continue working for Ashwood although it might make matters worse and he decided to go on; and that “it is all the work I’ve ever done”. In 1998 he was 43 years of age; in 2002, when he first experienced any symptoms, he was in his late 40s. He had been working in this industry since the age of 16. It is true that he told me that the symptoms had deteriorated “quite quickly” going through a stage and then evening out. Equally he told me that in about 2005 he gave up fishing because it was “unbearable” and he would say that

symptoms were then deteriorating slowly. As to alternative employment options in 2002 or 2007, they were not explored in evidence. I have no evidence before me that the position would have been “very different in 2002”. I am alert to the need not too readily to infer or assume that a man would have gone on in employment regardless of significant risk to him, a caution which Courts have recognised and which the Court of Appeal has underlined. However here, it is the simple fact that Mr Hurley did choose and has continued to choose to work in like employment in full knowledge of the risk, and the warning of Mr Tudor Davies.

97. In my judgment, no different course would have been followed by Mr Hurley and no different outcome would have been experienced by him, if the Defendant had taken steps of warning, once he began to experience symptoms in 2002.

98. If I am wrong in all of this, I ought to consider quantum.

99. His symptoms are significant.

100. He has reduced manual dexterity and describes a number of problems with his daily life, modest perhaps as to dressing or picking up small items, but significant in limiting his freedom to drive for long periods without a stop, and in his deprivation in his hobby of fishing. Mr Tudor Davies considered him to be properly assessed as SN1 (having sensorineural loss at level one) left and right and nil vascular impairment left and right. and Mr Denning considered the grading might be between 2 to 3 sensorineural left and right, agreeing that there was no vascular impairment.

101. In terms of the JSB Guidelines, ,

“the vascular component is graded between stage nil (no attacks) through mild moderate and severe to 4V (very severe) where there are frequent attacks affecting all phalanges of most fingers with atrophic changes in the finger tips. The sensorineural component is graded between stage nil SN (no symptoms) and 3 SN (intermittent or persistent numbness, reduced tactile discrimination and/or manipulative dexterity). The grade of disorder is indicated by the stage of number of affected fingers on both hands. The assessment of damages depends upon the extent of the symptoms and their impact upon work and social life. In a severe case, the injury may be regarded as damaging a hand rather than being confined to the fingers. serious £11,0000 to £20,750 ; moderate £5,700 to £11,000.

102. The Defendant contended that damages fell for Mr Hurley within the moderate bracket; the Claimant contended that his damages lay in the serious bracket, and that accordingly damages ought to be assessed for pain suffering and loss of amenity in the region of £15,000. In my judgment, the restrictions are significant day to day and the restriction on driving for long periods and on hobbies must be particularly irksome, such that the case falls just within the

serious bracket, but at its lower end. I would have assessed general damages for pain suffering and loss of amenity at £12,000 both in accordance with the JSB Guidelines and in accordance with my independent judgment.

103. Mr Hurley is at some disadvantage on the labour market. The advice from Mr Tudor Davies is that he should avoid all future exposure to vibration. If he were to lose or leave his current employment, his HAVS may make him less attractive to some employers and his job opportunities are, to some extent, more limited. Earnings for assembly workers are in the region of £21,000 gross per annum (Ashe Guide 2009 Code 813 for Assemblers and Routine Operatives). He told me, not presaged in his witness statement, that his job will depend on whether the insurers will allow him to continue to work for Ashwood, and that this may depend on the outcome of present litigation. I am therefore in the curious situation, that if I find contrary to liability, (since he will elect to continue to work despite advice that he should avoid exposure), his employment appears to be secure (or at least not insecure), and on the contrary if I were to decide liability in his favour, he would be at significant risk in relation to his employment.

104. Counsel for the Claimant in written closing submissions suggest that a significant award should be made, given Mr Hurley's concern about his employment, and contends that it should be based around 2 years' loss of earnings. He is now aged 55. No contentions were advanced to me based on "disability" within the meaning of the Ogden Tables. Mr Hurley is a man with a first class record of employment, and I would have thought would impress any employer with his evident work ethic and willingness to apply himself. An award of 2 years loss of earnings for handicap on the labour market would equate to over 20% of his prospective earning capacity, adjusted on an actuarial basis. That seems to me wholly excessive. On the other hand his work experience has over his whole life been in this industry. I would therefore have assessed handicap on the labour market in the event of liability in a round sum of £20,000.

105. In many cases it is necessary to deal with arguments as to apportionment between the effects of exposure in employment with various employers, or as between periods of negligent and non-negligent exposure. The former does not arise. As to the latter HAVS is related to dose exposure. Until the human being has absorbed the totality of exposure to vibration which injures him, the further exposure has had no perceived effect in injury. Where I have ruled against liability it appears to me artificial to deal with notional apportionment and I shall do so only if asked by the parties to do so when they have been able to consider this judgment.

106. The severe weather and transport difficulties in the period up to and over Christmas period prevented me from finalising this judgment and handing it down before Christmas, as I had hoped. Now returned from leave, I propose to hand down judgment in written form, reserving consequential matters and/or costs to some later occasion, if attendance be necessary for that purpose. I do so for the possible avoidance of costs. I would like to thank Counsel for the Claimant and Counsel for the Defendant for the assistance which they have given me in this case.

6th January 2011

His Honour Judge Seys Llewellyn, QC