Neutral Citation Number: [2018] EWCA Civ 72

Case No: B3/2015/0832 & 1137 & 1168

IN THE COURT OF APPEAL (CIVIL DIVISION)
ON APPEAL FROM LIVERPOOL CIVIL AND FAMILY COURT
3YK54788

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 31/01/2018

Before :

LADY JUSTICE THIRLWALL
LORD JUSTICE MOYLAN
and
LADY JUSTICE ASPLIN

- -

Between :

MR ADRIAN BOWE	**Claimant**
- and -	
(1) MERSEY REWINDS ENGINEERING LTD & ORS	**Defendants**

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Mr John Benson QC and Mr Ivan Woolfenden (instructed by **Norman Jones Solicitors**) for the **Claimant**
Ms Catherine Foster (instructed by **Weightmans LLP** and **BLM**) for the **Defendants**

Hearing date: 11th July 2017

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Approved Judgment

Judgment Approved by the court for handing down.

LADY JUSTICE THIRLWALL :

1. This appeal arises in a claim for damages for personal injury sustained in the workplace. The appellants are three defendants who employed the claimant at different periods during the years 1985 to the date of the trial. I shall refer to the respondent as the claimant and to the appellants as the defendants.

2. It was the claimant's case that each defendant was in breach of its duty to take reasonable care to protect him from sustaining injury during the course of his employment. He alleged that frequent and prolonged use of vibrating tools caused him to suffer from vibration white finger (VWF) and carpal tunnel syndrome. The defendants admitted each owed a duty of care to the claimant as claimed. It was agreed at trial that none of the defendants took any steps at any time to warn, advise or monitor the claimant in respect of the potential effects on his health of working with vibrating tools. Each defendant denied that the claimant was subject to frequent or prolonged exposure to vibrating tools as alleged. Breach of duty was denied. Causation was also in issue. The first and third defendants pleaded a limitation defence.

3. A trial was directed of two issues: limitation and breach of duty. The trial took place over 4 days some months apart - 15 and 16 October 2014 and 16 and 17 February 2015. The recorder gave an extempore judgment on 18 February 2015. He dismissed the limitation defence on the grounds that the claimant's date of knowledge (as defined in Section 14 Limitation Act 1980) was within the three years before the issue of proceedings. There is no appeal against that determination.

4. The recorder also concluded that each defendant was in breach of its duty of care to the claimant because over many years it "transitorily" exposed the claimant to vibration speeds above what is known in the industry as "the threshold level" but took no steps to warn him about the potential effects on health of working with vibrating tools, or to monitor his exposure or otherwise to advise him about working with vibrating tools. It is against the finding of breach that the defendants appeal.

Background

5. It was the claimant's case that he began working with vibrating tools from about 1986. The British Standard relevant to the facts in this case is the Guide to Measurement and evaluation of human exposure to vibration transmitted to the hand, BS 6842; 1987. It provides guidance to those who manufacture vibrating tools as to how vibration likely to cause injury should be measured. The assessment of vibration exposure is primarily based on the measurement of daily exposure. To facilitate comparisons between different durations of exposure to different tools with different vibration speeds, the daily exposure is expressed in terms of the 8 hour energy equivalent frequency weighted acceleration: A8. This is set out at Table 5 of the document which for ease of reference I have set out below. It shows that where 100 people are exposed daily to vibrations of an acceleration magnitude of 2.8m/s2, 10 of them are likely to suffer symptoms within 8 years. Where the acceleration magnitude is half that ie 1.4m/s2 the period of exposure after which 10% are likely to have symptoms is 16 years. The effect is linear and cumulative thus where the daily exposure (A8) is 15 minutes then the level of acceleration magnitude which would be likely to produce symptoms in 10% of those using the tools after 8 years is 16m/s2.

After 16 years the figure is 8.0m/s2. Three notes precede the table. These are:-
Note 1 : The values presented in table 5 are based on exposures which are regularly repeated on a daily basis
Note 2 : If, for a specific daily exposure duration and life-time exposure, the acceleration is in excess of that required to produce 10% prevalence, a higher incidence of symptoms may be expected. There will be a complex relationship between vibration exposure and prevalence of symptoms. When the vibration exposure is high (eg after many years of exposure) the prevalence may be particularly dependent on the rate at which persons join and leave the vibration exposed group. While there have been useful attempts to relate prevalence to vibration exposure these findings are currently restricted by the shortage of available data.
Note 3: A prevalence of 10% has been chosen as a convenient example. The scientific literature can be consulted to discover some exposures which have given rise to other prevalence rates.

Table 5. Frequency weighted vibration acceleration magnitude ($m*s^{-2}$ r.m.s.) which may be expected to produce finger blanching in 10% of persons exposed

Daily exposure	Life-time exposure					
	6 months	1 year	2 years	4 years	8 years	16 years
8h	44.8	22.4	11.2	5.6	2.8	1.4
4h	64.0	32.0	16.0	8.0	4.0	2.0
2h	89.6	44.8	22.4	11.2	5.6	2.8
1h	128.0	64.0	32.0	16.0	8.0	4.0
30 min	179.2	89.6	44.8	22.4	11.2	5.6
15 min	256.0	128.0	64.0	32.0	16.0	8.0

6. Two of the three notes which follow the table are relevant here:
i) with short duration exposure the magnitudes are high and vascular disorders may not be the first adverse symptoms to develop.
ii) …
iii) Within the 10% of exposed persons who develop finger blanching, there may be a variation in severity of symptoms.

7. Each item of vibratory equipment has a recognised vibration level. What it is depends on the age and condition of the equipment, the material against which it is vibrating and so forth. New equipment is designed to have a lower level of vibration. Manufacturers should be guided by table 5 when designing machines. That is not to say that a level of A8 2.8m/s2 is a safe level of vibration given that it leads to injury in 10% of workers.

8. At paragraph 2.1 of the guide under the heading "General considerations" there is a list of factors which were and are believed to influence the severity of the effects of hand-transmitted vibration. In addition to the frequency spectrum of vibration are included

the length and frequency of work and rest spells, whether the tool is laid aside or held idling during breaks in work etc, the duration of exposure per working day, the cumulative exposure to date.

9. There was also before the court the publication HS(G) 88, Hand-Arm Vibration, produced by the Health and Safety Executive in 1994. It was part of a series of documents with the purpose of providing guidance for those who have duties under the Health and Safety at Work etc Act 1974. From the opening chapter under key points and throughout, it is made plain that employers must be aware of and guard against the risk of injury where people regularly work with vibrating tools for prolonged periods. This is explicit at paragraph 21 of the document where the following appears "Programmes of preventive measures and health surveillance are recommended where workers' exposure regularly exceeds an A(8) of 2.8m/s2."

10. The recorder set out at paragraphs 13 and 14 of the judgment the agreed position as to the risk of injury caused by vibration. He observed that throughout the period that the claimant was employed by the three defendants it was agreed that there was a foreseeable risk of injury to a person exposed to levels of vibration of 1m/s2 [A8]. This is generally described as the threshold level. Below that level there was no foreseeable risk of injury resulting from exposure to vibrating tools and employers owed no duty of care at common law. Above that level there was a duty upon an employer at common law and, later, pursuant to the Control of Vibration at Work Regulations 2005, to take some steps to alert employees to the potential risk of injury by warning, monitoring and advising those using vibrating tools. Above the action level ie 2.8m/s2, active steps such as reduction of exposure by modification of tools, job rotation and the like was required. What was omitted from the agreement, but should be taken as read for it accurately to reflect reality, was that isolated exposure to levels above the threshold or action level does not lead to a foreseeable risk of injury. What is required is regular (or, more accurately, frequent) exposure to those levels.

11. In a decision of this court in *Armstrong v British Coal Corporation No 2*, 31 July 1998 unreported, it was held that there was a duty to warn employees in the coalmining industry about the risk of developing VWF from vibratory tools. Judge LJ as he then was, suggested the following would be suitable, "If you are working with vibrating tools and you notice that you are getting some whitening or discolouration of any of your fingers, then in your own interests you should report this as quickly as possible. If you do nothing, you could end up with some very nasty problems in both hands." That suggested form of words echoes the advice in BS 6842; 1987 at B3 of Appendix B which is headed "**Guidelines on preventive procedures**."
"(a) All individuals who use vibrating equipment should be advised of the risk of exposure to hand arm vibration."
At B4 under the heading "Advice to individuals who use vibrating tools" was this
(d) Should attacks of white or blue finger or long periods of tingling and/or numbness occur, seek medical advice."
The guidance does not say in terms that the advice should be given when individuals use vibrating equipment on a regular or frequent basis but that is implicit from the context. In *Doherty and others v Rugby Joinery (UK) Ltd [2004] EWCA Civ 147* Hale LJ as she then was reviewed BS 6842: 1987 and the much earlier BS DD43: 1975. It is not necessary to set out the latter. At paragraph 52 of her judgment Hale LJ said "It is clear from both documents that the state of knowledge was not sufficient to lay down a safe standard of exposure. The variables were too complex, and

included individual susceptibility. Thus it could be suggested that any employer whose employees regularly used hand-held vibratory tools should at the very least take steps to warn them of the possible dangers and advise them to report any symptoms when they occurred."

Expert Evidence

12. The experts' evidence was agreed and so they were not called. They agreed that if the claimant's account of his usage of vibrating tools was accepted then it was very likely that he had been exposed to "a hand/arm vibration dose exceeding the action level on a regular basis dependent upon the actual duration of his average working day". They also agreed that if the defendants' account (as set out in their employees' witness statements) of his usage of vibrating tools was accepted "then it is highly likely that the claimant was not exposed to significant hand/arm vibration." Mr Taylor was asked to define "significant" in this context. It meant exposure to a hand/arm vibration dose exceeding the threshold level.

13. Some of the defendants' witnesses' statements conceded that the claimant used vibrating tools, including needle guns (as to which see below) but only occasionally. Unsurprisingly the experts did not suggest that this occasional use meant that the claimant had been exposed to significant hand/arm vibration.

14. **The recorder's findings**
The recorder found that the claimant had worked for the first defendant between 1985 and 1990/91, in 2003 for six weeks and again from 2009 up to the date of trial. He did not work with vibrating tools until 1986. He had worked for the second defendant between 1995 and 2003, the third defendant between 1991 and 1994. Between 2003 and 2009 he worked again for the second defendant during which time he spent two years performing clerical duties and only some maintenance work. It was the claimant's pleaded case which he maintained in evidence that each of his employers had exposed him to excessive levels of vibration on a continuous basis for 70—80% of his working life. The recorder rejected that case in robust terms. He was satisfied that the claimant was deliberately exaggerating the extent of his exposure. No criticism is made of that finding, which was plainly correct. The recorder found that the claimant was an armature winder. Armature winding is a highly skilled job which does not involve the use of vibrating machine tools. He found that the claimant also carried out other tasks more usually carried out by fitters but he did so much less frequently than armature winding. The other tasks did require the use of vibrating tools, including needle guns and air chisels, both of which reached the threshold level in a relatively short period of time of use (3 minutes according to the table produced by Mr Taylor at page 494):

Vibratory Tool	Estimated Magnitude m/s^2 dom axis	Mins trigger time per day to reach 1 m/s^2	Mins usage time per day to reach 1 m/s^2 based on 50%	Mins trigger time per day to reach 2.8 m/s^2	Mins usage time per day to reach 2.8 m/s^2 based on 50%
Impact wrench	6	13	26	104	208
Needle gun	12	3	6	26	52

Angle grinder	4	30	60	240	480
Air drill	4	30	60	240	480
Die grinder/buffer	4	30	60	240	480
Air chisel	12	3	6	26	52

15. The recorder referred to the evidence of Mr Hannigan, employed by the first defendant who confirmed that a needle gun was used by the claimant, albeit on an irregular basis, for removing heavy corrosion from motors, for periods of ten minutes at a time, then a break would be taken and the work would continue. The recorder observed (paragraph 23) that "Mr Woolwich [who gave evidence for the second defendant] conceded tool usage at a level which led Mr Worthington (the defendant's expert) to suggest that if all the tools mentioned… were used equally for the period of time mentioned then the threshold level would be exceeded but not the action level". The recorder made no finding about that.

16. At paragraph 29 the recorder found (and clarified the finding at 31) that the claimant used needle guns throughout his employment by each defendant and, until 1999, air chisels (except when employed by the second defendant which did not use air chisels.). It is plain from the context that the recorder considered the use of needle guns (throughout) and air chisels (up to 1999) occasional but it took place over many years. He concluded at paragraph 30 that "to the extent the claimant used the needle gun and the air chisel with all the defendants there was a breach of duty "in that he was transitorily…exposed to levels above the threshold." He concluded, "I appreciate that this is probably not helpful to either party – and we have already discussed the constraints within which I have to deal with these matters caused by the splitting of the trial into two parts and the absence of the experts – but there it is. Therefore, to that limited extent, there was a breach of duty in relation to the exposure and there was, therefore, accordingly, a breach of duty in relation to the requirements either at common law or later pursuant to statute following such a breach of the threshold limit". I am quite satisfied that in saying "there was a breach of duty in relation to the exposure" the recorder meant that from time to time the exposure exceeded or breached the threshold level and accordingly, given the absence of any warnings or other advice or monitoring, breach of duty followed.

17. The recorder did not determine what the consequences would have been had the claimant received an appropriate warning or advice or there had been some monitoring. This was because of earlier case management directions which the parties did not invite him to review. Whilst I understand the reasons for leaving the question of causation of injury to a separate hearing, it is not clear to me why the question of what would have happened had the warning, advice or monitoring been undertaken, could not have been answered at this hearing. Be that as it may the recorder characterised his finding of breach as limited. Its effect was likely to be very limited; given that the claimant was still working at the time of the trial, knowing of his condition, knowing the medical advice and knowing of the basis of his claim. Since the recorder made no findings I say no more about it.

The Grounds of Appeal

18. Miss Foster developed a number of grounds before us. First she submitted, as she had before the recorder, that this was an all or nothing case. The claimant having failed to prove his case could not succeed on a version of the facts different from his case and that of the defendant. There was evidence before the recorder, called by the defendants, upon which he was entitled to rely, that the claimant had indeed used vibrating tools, albeit very much less frequently than he had asserted, see above. It is not unusual for a judge to make findings of fact that reflect the case of neither the claimant nor the defendant. The question is, was the evidence available to justify his findings? The answer to that is plainly yes. Indeed permission to appeal was sought (and granted) on the specific basis that there was no challenge to any of the recorder's findings of fact.

19. The question of law, as the single judge identified, is whether, having found that the claimant was transitorily exposed to levels above the threshold, the recorder was entitled to conclude that this (combined with the admitted failure to warn etc) meant that each of the defendants was in breach of duty. Ms Foster submits that "transitory" (and I would add for the purposes of the argument, occasional) exposure to levels above the threshold does not automatically lead to a finding of breach of duty. I agree.

20. During the course of closing submissions Mr Woolfenden had submitted that the recorder could make findings of fact which reflected neither the claimant's nor the defendants' case and conclude that the exposure, while not at the action level, was above the threshold level and so, in the admitted absence of any warning etc, tortious. The recorder expressed the view that this would require him to constitute himself an expert and apply expertise to a different set of facts from the two put before the engineers and upon which they had come to their agreed position. Miss Foster argued against Mr Woolfenden's proposal. In the course of his judgment the recorder made clear that he had decided that the existing expert opinion was sufficient for him to conclude that the threshold level had been breached on occasion and so there had been a breach of duty. He explained his approach thus "I feel able to depart, however, from my initial comments to Mr Woolfenden about not being able to constitute myself an expert because, in relation to chisels and needle guns, there is a simple table [drafted by Mr Taylor – see paragraph 10 above] to which I can apply the evidence of Mr Hannigan. I accept that that is in relation to needle guns. In relation to air chisels, it seems that in the early years of the claimant's career he would have to chisel the heads off the cores on the motor before he could begin his work."

21. Ms Foster submits that the recorder misunderstood the basis upon which Mr Taylor's table was compiled ie that the assessment of vibration exposure is primarily based on the measurement of daily exposure. There is nothing in the judgment to suggest that the recorder did not understand the basis of the assessment of exposure and he was not wrong to conclude that if a needle gun was being used, the threshold level was reached after 3 minutes. However whether there was a breach of duty depended on the frequency of the use of the needle gun and/or the air chisel and he made no findings about that. He did find that the tools were used over many years.

22. Mr Woolfenden's submission, repeated before us by Mr Benson QC, was that 30 minutes exposure to a needle gun once a fortnight equates to 3 minutes per working day. Mr Woolfenden urged the recorder to make a finding that the needle gun was used once a fortnight, at least with the first defendant. To that should be added, Mr Benson reminded us, the exposure to the air chisel at or above the threshold level and the fact that the claimant was exposed to these tools over many years.

23. There are two problems with the approach in respect of the fortnightly use of the needle gun: first there is no expert evidence to suggest that a single occasion of 30 minutes exposure equates to 3 minutes on 10 occasions. Second, and more importantly, the recorder made no finding that the claimant used the needle gun once a fortnight or at any other level of frequency or regularity nor did he make any findings about the frequency of use of the air chisel. Having re-read the whole of the lay evidence I am not surprised by this. At its highest the recorder found "transitory" exposure above the threshold. In the absence of any finding as to frequency and any expert evidence about the effect of intermittent use at such a frequency it was not open to the recorder to move from a finding of transitory exposure even over many years to a conclusion that this constituted a breach of duty by the defendants. To come to that conclusion he would have had first to find that the claimant was using the needle gun and/or the air chisel at or above the threshold level on a regular/frequent basis and it was in that situation that there had been no warning, advice, monitoring etc. He did not do so because he was rightly not satisfied on the evidence that the use of vibrating tools was either regular or frequent. The evidence was all the other way.

24. It follows that the recorder's conclusion as to breach of duty cannot stand. I would allow this appeal.

Lord Justice Moylan

25. I agree

Lady Justice Asplin

26. I also agree.