

DNA TRANSFER – AND WHY IT MATTERS

[Speaking note of David Bentley QC, Doughty Street Chambers]

As you know, our main speaker tonight, Dr Georgina Meakin, will be telling you about the latest research on DNA transfer at crime scenes, as well as highlighting a new technique for DNA mixture analysis - so called Next Generation Sequencing (NGS).

But before you hear from her, I want to give you some understanding of why the subject of DNA transfer matters – and why all of you here, working as you do on criminal cases, need to get a basic grasp of the mechanisms of DNA transfer, and whether it is more likely primary (ie direct) or secondary. As we'll see, establishing the possibility (or better, likelihood) of secondary transfer will be of huge benefit in casting doubt on a DNA based allegation.

How and when did the DNA get deposited will be key questions to be asked.

As for NGS (a vastly more discriminating tool for analysing DNA than the currently used technology) - when it comes onstream in UK (quite possibly next year), it will enable investigators to attribute a DNA match to a suspect from mixtures currently too complex to analyse.

In blunt terms, that means more defendants are going to be identified by a purported DNA match. And the statistical strength of such matches will be greater than before. So the results will be more robust, and thus more difficult to challenge.

Couple that with the recently developed case law – which now allows for convictions based on DNA match evidence alone - and it becomes clear that the main battle-ground in future will not be about whether there is a match, but rather how (and when) the matching DNA got to the crime scene or object.

The case law

Challenges to the *admissibility* of a DNA profile are well settled, based on CPR part 19, CPD part 19A and **R v Dlugosz [2013]EWCA Crim 2** . [See earlier presentation by Kate O'Raghallaig].

More relevant here is what the courts have said about cases based on DNA match alone.

I'm just going to look briefly at just two cases, which illustrate neatly how important it is to be able to cast doubt on how (and when) your client's DNA got on the knife, gun, glove or whatever.

R v Tsekiri [2017] 1 Cr.App.R. 32

Brief facts. D appealed his conviction for robbery. June 2016, a woman got into her car, parked near Wimbledon Park tube station (SW17). As she prepared to drive away, a man opened her driver's door and robbed her of a gold necklace. He then ran off.

D was arrested in SW6. On interview he made no comment. On an ID procedure, D was not picked out.

Scientific evidence?

Swabs taken from driver's side door handle yielded a mixed DNA result, consisting of one major contributor and at least one minor contributor. The profile of the major contributor matched that of D, with a match probability of at least 1 in 1 billion – *making it at least a billion times more likely that the profile matched D rather than another random, unknown individual, unrelated to D.*

At trial a submission of no case was made and rejected. D didn't give evidence, and was convicted.

The CoA upheld the trial judge's ruling, and thus the conviction.

The Court was satisfied that the only evidence to connect D to the robbery was the DNA evidence. There was no supporting evidence.

They went on to review the existing case law (including **R v FNC [2016] 1 Cr.App.R. 12**), **ruling that DNA evidence on an article left at a crime scene can be sufficient for a case to answer without more, where the match probability is 1:1 billion or similar.**

Whether it is sufficient is case and fact specific.

The Court gave a (non-exhaustive) list of factors a judge should take into account in deciding whether a case should be left to a jury where a D's DNA profile at the scene is the only evidence. Six factors were identified, but it is only one of them that I want to highlight tonight – as it relates to transfer.

Para 20 *“Is it more or less likely that the DNA profile attributable to the defendant was deposited by primary or secondary transfer? In this case the expert evidence was that secondary transfer was an unlikely explanation for the presence of the defendant's DNA on the door handle.”*

[See also para 21]

The court went on to say that *“the expert evidence was that the likely reason for the defendant's DNA profile being on the door handle was that he had touched it.”*

I.e. suggestive of primary, rather than (potentially exculpatory) secondary transfer.

Issue re-visited in **R v Lewis [2018] EWCA Crim 1101**

Time constraints dictate that I won't go into the facts – other than to say this was a robbery where again CoA looked at position where DNA was only evidence (in this case of a section 18 and O.W.). Although court found that there was supporting evidence, they restated the principle that DNA alone can suffice, approving the factors in Tsekiri.

Of relevance here tonight is what the court said about primary vs secondary transfer.

Pointing to the fact that the expert evidence at trial did not favour one mechanism over the other, the court held that it was for the jury to decide, and that they were entitled to discount the possibility of secondary transfer.

Conclusion

Now should be clear to all, that those preparing these cases for trial should fully explore the mechanisms of transfer – and make sure that any expert they need to challenge or engage is fully conversant with the relevant scientific research.

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