

ANTI CONTAMINATION PROCEDURES FOR TEXTILE FIBRE EXAMINATION – A DISCUSSION DOCUMENT

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ABSTRACT: This paper is primarily presented to encourage open discussion on fibre anti-contamination procedures adopted within laboratories. Thought will be given to various methods – both classical and new. Ideas for improvement will be proposed, finishing with a look to the future.

As a backdrop, the procedures currently adopted at Forensic Alliance Limited will be presented together with the example of an enquiry that proved to be particularly challenging in terms of offering to undertake an investigation whilst ensuring all possibilities of contamination had been addressed.

KEY WORDS: Fibres; Contamination.

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INTRODUCTION

Following the Canadian report involving the wrongful conviction of Guy Paul Morin, and the associated recommendations for the forensic examination of cases involving textile fibres, there has been an upsurge of interest into the theoretical aspects associated with fibre transfers and accidental contamination within the forensic laboratory environment. These were amicably reported last year by Ron Hrynchuk and Claude Roux. This short paper demonstrates the practices currently in operation at the Laboratories of Forensic Alliance limited. In it we explore the effectiveness of conventional procedures and some newer ones that we have introduced. The procedures are brought under scrutiny following a practical casework example and finally we put forward some suggestions for the future.

EXAMINATION PROTOCOLS

Our approach is as follows:

1. Examination takes place in a large search room with plenty of space between benches. These Labs are thoroughly cleaned on a weekly basis and “blanked” for particulates (and DNA) every 3 months.

2. We approach a case with a view to examine victim(s) and suspect(s) clothing in different search rooms, on different days and where practicable using different examiners.
3. The integrity of the exhibit is checked prior to leaving the exhibit store and only the items of interest are transferred to a search laboratory.
4. The examiner is fully gowned and wears a disposable laboratory coat.
5. The examination bench is cleaned with a wide spectrum disinfectant – we use Presept.
6. The bench is “blanked” with a strip of tape and this is kept for reference.
7. A sheet of examination paper is then placed over the bench.
8. The bag containing the exhibit is wiped down with damp tissue to remove any contaminant particles that may be adhering to the outer aspects.
9. Entry is made alien to the seal previously made by the submitting officer and the exhibit removed and placed on the bench.
10. Tapings are collected immediately using pre-sealed tape strips. The edges of the tapes are secured and documented.
11. Appropriate notes are taken, together with control samples. The examination bench, date, time and examiner are all noted. Sheddability/retention properties are estimated.
12. Samples of the examiners own clothing are recorded.
13. The exhibit is resealed and documented as such.
14. The disposable lab coat is stored in a polybag with the appropriate items for further reference if required. The examiner may also wish to retain the examination paper.
15. Finally, the bench is wiped down once more with Presept.

EXAMPLE OF CONCERN

These procedures were put into effect ideally to prevent accidental transfer between victim/suspect exhibits within a case and to avoid contamination from clothing worn by the examiner.

But how do you avoid potential contamination from other exhibits alien to your case?

This can be demonstrated in relation to a recent case of aggravated burglary. It involved forced entry of a window that had a pair of drawn curtains. At the time of examination these curtains were looked at using the protocols above. The curtains were submitted as 2 separate items, primarily due to their size. When the examiner returned to the original bench to examine the second curtain he realised there were a lot of contaminating fibres on the

blank tapes. These matched the fibres – orange viscose – that constituted the make up of both curtains. The examiner decided to undertake further investigations by taking tapes from the surroundings. He also examined the same areas over several days with the following results:

Day	Number of orange viscose fibres (estimated)
22 May	1000
23 May	100
24 May	10
25 May	6
26 May	0

SURROUNDING AREAS

Examiner's laboratory coat – 100; overhead light unit – 50; fluorescent tube – 17; neighbouring bench – 14.

DISCUSSION

What came as a shock was the sheer volume of numbers of matching fibres. The curtains were particular high in terms of shedding fibres. The search room was designated as unclean until it passed a blanking test.

So, could we have avoided the contamination?

We don't believe so given the circumstances. The fact that we knew the contamination had taken place and steps were taken to address this is of most importance. We are currently looking at other anti-contamination aids, such as:

- the use of clean rooms,
- tack mats,
- examination "tents",
- the wearing of "scrubs" or uniforms,
- the knowledge of what other shedding clothing items are currently been worked on in the Search Lab may be an asset and could be recorded.

These ideas are currently being piloted at our Risley Laboratory.

Our intention is to maximise the quality of all examinations and be assured that we are confident in our findings. This is particularly relevant when asked to look for link fibres or target indicators.