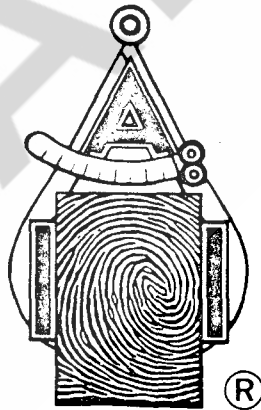


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Case Report

Identification of Workers' Compensation Fraud Through Radiographic Comparison

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Abstract: The case reported here documents how radiographic comparison can be used to identify and prosecute fraud when the modus operandi involves the suspect's simultaneous filing of two or more workers' compensation claims, or any other type of medically-related insurance claims, under multiple assumed identities.

A Terrorist Organization Known as FUQRA

FUQRA is an Arabic word (pronounced fook, -rá), which translates most accurately into meaning 'the impoverished'. It is also the name of a fundamentalist and militant Sufi Islamic sect that advocates the purification of the Islamic religion by means of force and violence. This group was originated in Pakistan by Sheikh Mubarik Ali Jilani, who is known by many other aliases and who also calls himself the sixth Sultan Ul Faqr. Jilani is ostensibly credited with having established a FUQRA organization in the United States around 1980. Jilani is believed to be a former operative for the Pakistani Inter-Service Intelli-

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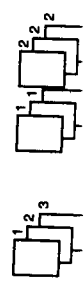
gence Agency. In addition to being suspected of committing numerous acts of domestic terrorism, FUQRA members in the United States — mostly African-American citizens — have been suspected of committing fraud against various governmental benefit programs in an effort to financially support their alleged terrorist activities and, oddly enough, the former Afghanistan conflict.

The FUQRA movement in the United States has been composed of approximately 30 different 'Jamaats', or communities, which have been somewhat nomadic in nature. Most of these 'Jamaats' are believed to currently exist today, along with several stationary 'covert paramilitary training compounds', one of which had been located in a remote mountainous area near Buena Vista, Colorado. The corresponding FUQRA 'Jamaat' to the Buena Vista compound had been located in nearby Colorado Springs, Colorado.

An investigation begun by Colorado Springs Police Department detectives eventually led to the use of radiographic comparison for the purpose of the identification of several FUQRA suspects. The detectives were contacted by the owner of a storage locker site who reported what appeared to be a locker of abandoned property. The history of the rental payments on this locker had been sporadic and no payments had been made for 29 days prior to the police entry. The owner of the storage locker had sent registered letters to the renter demanding payment and had given notice of intent to sell the goods in the locker to cover outstanding storage charges.

On September 14, 1989, detectives executed a search warrant at said storage locker in Colorado Springs, Colorado. The search of this storage locker disclosed numerous items believed to belong to the FUQRA sect then residing in that area. Several explosive components, including 30 pounds of explosives, as well as three large pipe bombs, a number of smaller improvised explosive devices, shape charges, 10 handguns — some with obliterated serial numbers, silencers in various stages of manufacture, military training manuals, reloading equipment, bomb-making instructions, and numerous FUQRA-related publications were located in this storage area. Of even greater interest to law enforcement officials were documents concerning potential 'targets' for destruction and murder in the Los Angeles, Tucson, and Denver areas. These included surveillance-type photographs, maps with hand-drawn overlays, notes, etc., concerning the targets, and a somewhat detailed description of a firebombing attack on what is believed to have been the

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Hare Krishna Temple in Denver. An attack, as described in these writings, did, in fact, take place in Denver on August 1, 1984, causing an estimated \$200,000.00 damage. Investigation by Denver authorities at that time revealed that a Hare Krishna Temple in Philadelphia, where FUQRA activity also had been noted, had been firebombed in a similar fashion.

Among the many documents found in the Colorado Springs storage locker were numerous blank, but totally genuine, birth certificates, along with blank social security cards. Also recovered were several sets of Colorado drivers' licenses, each containing a picture of the same individual, but each with a different identity, plus many underground press publications on the assembly of phony identification that could be reproduced in a manner to "withstand even close government scrutiny". Finally, the search disclosed a number of workers' compensation claims, which ultimately led to a full-scale fraud and money-laundering investigation conducted by Chief Criminal Investigator Susan Marie Fenger of the Colorado Department of Labor and Employment, Investigations and Criminal Enforcement Section, in coordination with the Colorado Attorney General's Office and the Federal Bureau of Investigation. This investigation revealed that Colorado Springs FUQRA members had defrauded the Colorado Department of Labor and Employment of almost one-half million dollars between September, 1984, and January, 1992.

The fact that FUQRA members are quite mobile and apparently are taught to use a variety of addresses and identities had made normal prevention and early detection of their crimes more difficult. As a result of a two-year investigation, however, five FUQRA members were indicted on racketeering charges involving eleven counts of theft, mail fraud, and forgery. Six months after the indictments, further racketeering charges, including murder and arson conspiracy, were also filed against a total of seven individuals — all FUQRA members.

Analysis of Fraud

The investigation, itself, commenced with a crossmatch of all known FUQRA identities against the Colorado Workers' Compensation files. This crossmatch resulted in the identification of twelve suspect workers' compensation claims, two of which were the Daryl Woods and Vincente Rafael Pierre claims. The Woods and Pierre claims were initially analyzed for possible indications of workers' compensation

fraud. Claimant names, social security numbers, addresses, telephone numbers, and employment history, etc., were verified through other government records. The length of each claim for the type of injury involved, as well as characteristics potentially connecting the series of claims, were carefully scrutinized. "Connecting characteristics" are usually comprised of "shared" addresses or employment histories, a mutual witness to the purported injuries, or a similar sequence of events relating to the alleged injuries.

A detailed review and analysis of workers' compensation records disclosed Daryl Woods had been working as a siding applicator for a local construction company during the three-month period preceding October 22, 1985, when, on said date, Woods claimed he was injured on the job and made a First Report of Injury. In his First Report of Injury, Woods alleged that he fractured his left ankle in three places and chipped a vertebra when the ladder Woods was standing on slipped, causing him to fall eight feet onto a co-worker, later identified as Kenneth Green. Green, incidentally, turned out to be another FUQRA member, who, himself, filed three workers' compensation claims under two different identities. Woods also alleged in his claim that Raymond D. Williams — later identified as still another FUQRA member and subsequently shown to have filed two claims under two different identities — was a witness to Woods' purported accident.

At the time of Woods' First Report of Injury, Woods listed his residence as an address in Fountain, Colorado (a suburban community south of Colorado Springs). Raymond D. Williams, the purported witness to Woods' accident, also listed the same address. Woods' Workers' Compensation claim disclosed that Woods received initial medical treatment, including surgery, at Memorial Hospital located in Colorado Springs, and was subsequently treated by a local physician over a three-year period of 'recovery.'

A detailed review and analysis of Vincente Rafael Pierre's workers' compensation records revealed that Pierre had been working as a carpenter for a construction company known as RDW Construction. On October 16, 1986, Pierre claimed he was injured on the job and made a First Report of Injury to his then-present employer Raymond D. Williams, the purported witness to Woods' alleged accident the year before.

Pierre's workers' compensation claim, while filed approximately one year after Woods' claim had been initiated, overlapped a portion of Woods' claim, since Woods had continued to obtain benefits on the basis that he allegedly was physically unable to return to work. Evidence later revealed that Woods had actually returned to work as a siding applicator in November 1985, about three weeks after the operation on his left ankle.

In his First Report of Injury, Pierre alleged that he suffered soft-tissue injuries to the left neck and shoulder, when a second story window he was nailing up purportedly fell forward on him. Pierre did not list any witness to his alleged accident. Pierre's Workers' Compensation claim disclosed that Pierre was initially treated for his purported soft tissue injuries at Penrose Community Hospital in Colorado Springs and received continuing medical treatment from three local physicians for a period of nine months.

A subsequent examination of medical records and workers' compensation records by Investigator Susan Marie Fenger, who is also a court-qualified forensic document examiner, revealed some handwriting similarities between documents bearing the writings of Daryl Woods and documents bearing the writings of Vincente Rafael Pierre, leading to the suspicion that Workers' Compensation claimants Woods and Pierre were the same individual (independent forensic evidence, consisting of Woods' and Pierre's x-rays, was later obtained and examined, positively confirming the suspicion).

One note, allegedly written by and signed 'Woods,' appearing in Woods' Workers' Compensation claim was compared with three notes, allegedly written by and signed 'Pierre,' appearing in Pierre's Workers' Compensation claim. It was then determined that one of the four notes was probably written by Daryl Woods and that Daryl Woods could not be eliminated as a suspect in the execution of the writings appearing on the remaining three notes.

Since there was insufficient known handwriting upon which to base a handwriting comparison for the purpose of reaching a conclusive opinion, the radiographs, which had been obtained as part of Woods' and Pierre's medical records, were visually compared by Investigator Fenger, at first as a matter of curiosity.

The investigator obtained Woods' abdominal radiograph (figure 1) from Woods' physician and Pierre's lumbar spine radiograph (figure 2) from Penrose Community Hospital. The investigator then compared Woods' abdominal radiograph, which included the lumbar spine, to Pierre's lumbar spine radiograph.

This lay person's comparison of the lumbar spines led the investigator to believe the radiographs were of the same individual, thereby supporting the theory raised by the inconclusive handwriting findings.

The radiographs were then submitted by the investigator to a recognized neuroradiologist for an independent, expert medical opinion as to whether Workers' Compensation claimants Woods and Pierre were the same person. On the basis of radiographic comparison, the neuroradiologist provided a report definitely identifying Woods and Pierre



Figure 1

Abdominal radiograph of patient Woods



Figure 2

Lumbar spine radiograph of patient Pierre.

The structure of the spine, ribs, and sacrum are identical to those in figure 1. The right twelfth rib (open arrows), the pedicles of the fourth lumbar vertebra (small arrows), and the spinous process of the fifth lumbar vertebra (large arrows) have been marked in figures 1 and 2 for comparison.

— two allegedly different claimants simultaneously seeking and obtaining medical treatment under the Workers' Compensation Act — as being the same individual.

Later during the investigation, still another suspect, James L. Upshur, also known as Raymond D. Williams, was similarly identified through radiographic means as a suspect. In this case, the radiographs that included the left knee of Upshur and Williams were examined

initially by another radiologist. This radiologist found that Upshur and Williams were probably the same individual.

Since this type of evidence had never been presented in court previously, the case prosecutor and investigator agreed that the best courtroom presentation should combine the radiologists' findings with the findings of qualified forensic anthropologists.

Radiographic Comparison

The radiographic evidence was submitted for evaluation to two forensic anthropologists; Dr. J. Michael Hoffman of Colorado College, Colorado Springs, Colorado, and Dr. Douglas H. Ubelaker of the Smithsonian's National Museum of Natural History in Washington, D.C.

Woods - Pierre Comparison

Radiographic evidence labeled as originating from Daryl Woods consisted of a 14 by 17 inch anterior-posterior abdominal radiograph, including all vertebrae from the eleventh thoracic through the sacrum and most of the pelvis (figure 1). The film was dated "6-2-86".

The comparative radiograph, labeled as Rafael Pier (actual claimant name Rafael Pierre), was 11 by 14 inches in size with an anterior-posterior view of the lumbar spine, extending from the eleventh thoracic vertebra through the superior aspect of the sacrum and pelvis (figure 2). The Pierre radiograph was dated "10-16-86."

Comparison of the two radiographic images revealed many points of similarity. The following features were judged to be of identical shape on both radiographs:

1. very short ribs on the twelfth thoracic vertebra, a congenital anomaly, and the associated costovertebral joints;
2. a line of slight radiolucency, vertically oriented, at the midpoint of the left twelfth short rib;
3. all the lumbar spinous processes;
4. the inferior borders of the transverse processes of the fourth lumbar vertebra;

5. transverse processes of the second lumbar vertebra;
6. the vertebral centrum and individual lines and areas of marked radiodensity of the third lumbar vertebra;
7. articular processes and facets between the second and third lumbar vertebrae;
8. the superior portion of the medial sacral crest;
9. borders of the pedicles; and
10. the contours of the right eleventh rib (the only normal rib included on both films).

The features listed above routinely show significant individual variation among individuals. Some of the features, especially the rudimentary ribs, are quite unusual. The overall pattern of similarity among features established that both radiographs originated from the same individual. Slight differences that occurred between the two radiographs are easily explained by slight variations in positioning of the patient at the time the radiographs were taken, as well as slight differences in radiographic technique.

Williams - Upshur Comparison

Materials available for comparison consisted of four radiographs — three with labels indicating they were of patient Raymond Williams, and one of patient James Upshur. Two of the Williams radiographs were taken on February 11, 1986, for a venogram, a procedure involving injection of a radiopaque contrast agent into the venous system of the leg to detect blood clots. One film was obtained before the contrast agent was injected and one after. The third radiograph was performed on May 14, 1987 and demonstrates contrast for a venogram. All three of the Williams radiographs were anterior-posterior views of the left leg, which included the knee, using 7 by 17 inch film. The 9.5 by 11.75 inch radiograph, labeled as Upshur, was an anterior-posterior view of the left knee. The Upshur radiograph is dated "8/2/88".

Both the Upshur (figure 3) and Williams (figure 4) radiographs demonstrated a single unusually configured spine arising from the intercondylar eminence of the tibia. This is a rare radiographic finding, since there are normally two spines arising from the intercondylar eminence. Furthermore, the radiographs of both individuals showed a density in the proximal tibial shaft, representing an enchondroma or



Figure 3

Left knee radiograph of patient Upshur

bone infarct. While a bone infarct or enchondroma is not an unusual finding, identifying such a structure in the exact same location in two patients would be rare. These findings were identical on both sets of films, making it highly probable that the radiographs were of the same person.

The film from Williams' 1986 venogram with contrast and the Upshur film were performed with the patient in nearly the same position. The contours of the bones and the trabecular pattern of the bones were identical, confirming that Williams and Upshur were the same person. In particular, identical structural shapes were found in the following areas:

1. the tibial condylar borders;
2. the concavity of the medial border of the tibia just inferior to the condylar surface;

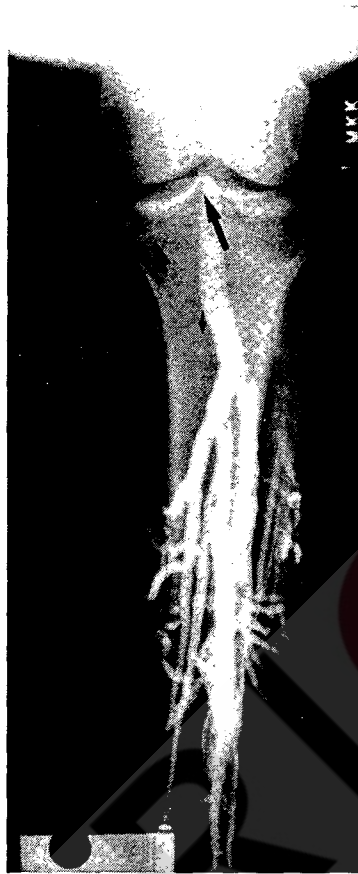


Figure 4

Radiograph from venogram of patient Williams

The branching white structures are veins filled with radio-paque contrast material. The morphology of the bones in the knee is identical to those in figure 3. The single spine on the intercondylar eminence of the tibia (long arrows), the residual of the tibial growth plate (short arrows), and the bone infarct or enchondroma (small arrows) have been marked in figures 3 and 4 for comparison.

3. the convexity of the lateral border of the tibia just inferior to the condylar surface;
4. the lateral tibial border below the articulation with the fibula;
5. lines and areas of increased radiodensity, especially in the proximal tibia inferior to the condylar surfaces and in the region of articulation with the fibular head; and
6. the fibular head itself.

Any differences in the contours of the bone or the densities within the bone on the other films could be explained by slight differences in positioning or radiographic projection.

Discussion

All of the features listed above are known to be highly variable among individuals. The overall pattern of many identical traits among the radiographs examined indicated that all radiographs labeled as both Williams and Upshur originated from the same individual. The slight differences present reflected variations in the positioning of the individuals and possibly in other aspects of radiographic technique.

The similarities in both sets of radiographs were so profound that both anthropologists, as well as two radiologists, testified that they originated from the two individuals as discussed above. Testimony of the anthropologists proved important in the trials because of their extensive experience involving interpretation of skeletal variation and positive identification from skeletal structure. The radiologists added perspective on radiographic identification of individuals and were able to address the clinical logistics of a radiology department and the technological aspects of the radiographic comparisons.

Analysis was facilitated by the clarity of the radiographic images, the facts that the body aspects examined were positioned similarly in all cases, and that the radiographs were taken within comparatively short time intervals. The Woods-Pier radiographs were taken within five months of each other and the Williams-Upshur radiographs within 2.5 years of each other. If longer periods of time had existed between the radiographs used in comparison, the probability would increase that trauma, medical intervention, or bone remodeling associated with the aging process might have introduced some skeletal differences that would have complicated the comparison.

During the trial of Edward Ivan McGhee (the actual defendant accused with using the Woods and Pierre [Pier] identities to defraud), defense counsel tried to discredit the radiographic evidence by attempting to show a "misfile and mix-up" of the Woods and Pier x-rays by hospital staff. In rebuttal, the prosecution was able to produce both medical and hospital administrator testimony which substantiated the integrity of the radiographic records. Furthermore, the investigator was able to provide testimony relative to the chain of custody. At the time

the radiographic evidence was taken into custody, the investigator engraved, by means of a pen knife, the custody dates and individual alphabetical identifiers into the border of each radiograph, or series of radiographs, taken from the hospital medical records of each individual patient.

Conclusions

In October 1993, after a six week trial, James L. Upshur, who had used the false identity Raymond D. Williams, was found guilty of several racketeering charges involving the Colorado Organized Crime Control Act. In January 1994, after a four week trial, Edward Ivan McGhee, who had used the false identities of both Woods and Pierre, was also found guilty of racketeering charges involving the Colorado Organized Crime Control Act. Both men are each currently serving 16-year sentences at the Colorado State Penitentiary.

Radiographic comparison used on a pre-mortem basis, as opposed to the more traditional post-mortem use, can be successfully employed to investigate, identify, prosecute, and convict individuals who perpetrate workers' compensation fraud, as well as other types of medically-related insurance fraud, where a variety of assumed identities are utilized on multiple claims.

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References

1. Camps, F. E., "Radiology and its forensic application", *Recent Advances in Forensic Pathology*, Churchill, London, 1969, pp 149-160.
2. Fatteh, A. V.; Mann, G. T., "The role of radiology in forensic pathology", *Med Sci Law*, 9, 1969, pp 27-30.
3. Kade, H.; Meyers, H.; Wahlke, J. E., "Identification of skeletonized remains by x-ray comparison", *J Crim Law, Criminol, Police Sci*, 58, 1967, pp 261-264.
4. Law, F. M., "Roentgenograms as a means of identification", *Am J Surg*, 26, 1934, pp 196-198.
5. Martel, W.; Wicks, J. D.; Hendrix, R. C., "The accuracy of radiographic identification of human skeletal landmarks", *Radiology*, 124, 1977, pp 681-684.
6. Morgan, T. A.; Harris, M. C., "The use of x-rays as an aid to medico-legal investigation", *J Forensic Med*, 1, 1953, pp 9-18.
7. Sanders, L.; Waesner, M. E.; Ferguson, R. A.; Noguchi, T. T., "A new application of forensic radiology: identification of deceased from one clavicle", *Am J Roentgenol*, 115, 1972, pp 619-622.
8. Stewart, T. D., *Essentials of Forensic Anthropology*, Charles C. Thomas, Springfield, IL, 1979.
9. Ubelaker, D. H., "Positive Identification From the Radiographic Comparison of Frontal Sinus Patterns", *Human Identification, Case Studies in Forensic Anthropology*, Chapter 29, Charles C. Thomas, Springfield, IL, 1984, pp 399-411.
10. Ubelaker, D. H., "Positive Identification of American Indian Skeletal Remains from Radiograph Comparison", *Journal of Forensic Sciences*, 35 (2) 1990, pp 466-472.