Osteopaths, Mr B and Mr C

A Report by the

Health and Disability Commissioner

(Case 02HDC11987)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Parties involved

Mr A	Consumer
Mr B	Provider / Osteopath
Mr C	Provider / Osteopath
Professor D	Consultant Physician

Complaint

The Commissioner received a complaint from Mr A regarding the care he received from osteopaths Mr B and Mr C on 15 July 2002. The complaint has been summarised as follows:

Mr B
On 15 July 2002 Mr B did not provide Mr A with services of an appropriate standard. In particular, Mr B:

- *manipulated Mr A's neck causing bilateral vertebral artery dissection*
- *failed to appreciate the seriousness of symptoms Mr A developed following the neck manipulation*
- *did not refer Mr A for urgent specialist assessment following the development of complications*
- *did not provide Mr A with information about potential risks of neck manipulation before commencing treatment.*

Mr C
On 15 July 2002 Mr C did not provide Mr A with services of an appropriate standard. In particular, Mr C:

- *failed to appreciate the seriousness of symptoms Mr A developed following the neck manipulation*
- *did not refer Mr A for urgent specialist assessment following the development of complications. Instead, Mr C drove Mr A home*
- *did not ensure that an appropriate follow-up management plan was in place following treatment complications*
- *did not provide Mr A with information about possible risks and further complications to be aware of if Mr A developed symptoms following neck manipulation.*

The complaint was received on 28 August 2002 and an investigation was commenced on 18 October 2002.

Information reviewed

- Information from Mr A, Mr B and Mr C
- Mr A's records from Mr A's general practitioner, ACC, and the public hospital
- Independent expert advice from Ms Lorraine Green, a registered osteopath

Information gathered during investigation

Background
In July 2002 Mr B was working at an osteopathic clinic (the Clinic) as a self-employed registered osteopath. The Clinic was owned by Mr C, an osteopath who had retired from full-time practice. Mr C rented the rooms and practice to three osteopaths and maintained a degree of clinical involvement at the Clinic.

Mr C advised me that on "rare occasions" he saw patients and, when requested, provided a second opinion to the osteopaths at the Clinic. It was in this capacity that he saw Mr A on 15 July 2002. Mr B advised me that although Mr A was booked to see him, Mr A was considered to be the patient of the Clinic. He had been to the Clinic on one previous occasion regarding a lower back problem. Mr A had a history of tension headaches and migraines, which had increased in frequency over the two months preceding the 15 July consultation.

Presentation
On 15 July 2002 Mr A presented at the Clinic for a 10am appointment with a week-long history of neck pain, restricted neck movement and sore shoulders. Mr A stated that his neck pain started a week earlier and had triggered a migraine headache. His symptoms had improved with migraine medication, but he reported an increase in symptoms on turning his head and neck left and right on full neck flexion. He had no previous history of neck problems.

After taking Mr A's case history, Mr B performed a physical examination. He noted that there was increased neck discomfort on full flexion and end-of-range rotation to the left and right. Extension was not uncomfortable. Results of other tests undertaken, including vertebrobasilar insufficiency test, were unremarkable. Having noted muscle tenseness and restricted mobility at the level of first and second cervical vertebrae, Mr B diagnosed facet (joint) irritation at this level.

Mr B advised me that after explaining his findings to Mr A, he proceeded with the treatment. First he performed soft tissue massage to the trapezius (a flat triangular muscle covering the back of the neck and shoulder) and musculature of the upper thoracic (chest) spine, and then he mobilised the upper thoracic spine. Having relaxed the upper thoracic spine, Mr B then proceeded to massage and stretch the muscles of the cervical spine. After informing Mr A that he wanted to mobilise his upper cervical spine, Mr B manipulated the spine at the level of the first and second cervical vertebrae.

Complications
Mr A advised me that towards the end of the neck manipulation, his neck "cracked" and he immediately felt "very light headed" and developed ringing in his ears. He said that while looking at the ceiling "the whole room was spinning around". Mr A asked Mr B to help him sit up and he did so. He said that the room continued to spin and he experienced tingling in his right arm and hand, and around the right side of his mouth.

Mr B advised me that approximately 90 seconds after completing the procedure Mr A reported feeling "a little light headed" and that the room had started to spin. He lifted the back of the treatment table to place Mr A into a sitting position and asked him to take long, slow breaths. Approximately two minutes later Mr A reported feeling no improvement in his symptoms and said that the tips of his fingers and his lips were beginning to tingle. Suspecting that Mr A might be hyperventilating, Mr B gave him a paper bag to breathe into. After about a minute Mr A reported feeling a little better.

Mr A advised me that breathing into the bag did not alleviate the tingling sensation. He felt nauseous and vomited. While being assisted off the treatment table and attempting to reach the nearby basin, Mr A collapsed to the floor. He recalled being assisted to the basin by Mr B and having diminished strength down the right side of his body. Mr A also recalled having no control over his mouth movements; he could not stop dribbling from his mouth and could not speak. At this point Mr B felt very concerned for Mr A and called Mr C for "guidance and advice". Mr B informed Mr C of Mr A's history and the presenting complaint, including his history of migraines, and what had occurred following the neck manipulation. Mr B suggested to Mr C that the manipulation might have triggered an acute migraine episode.

Mr C recalled that on seeing Mr A, his initial impression and concern was that he had suffered "some kind of stroke". However, on examination Mr A's vital signs (heart rate and rhythm, respiration, pupil size and muscular tonicity) were normal. In light of Mr A's history, Mr C considered the symptoms to be consistent with a migraine headache with "no apparent unilateral symptoms suggestive of stroke situation".

Mr B advised me that while Mr C was examining Mr A, he informed Mr C that he had other patients waiting outside. He said that it was Mr C's decision that he (Mr B) see to other patients and that Mr C would look after Mr A. Because of his concern for Mr A, Mr B suggested to Mr C that he (Mr C) take Mr A to hospital. Mr B said that Mr C told him that he would monitor Mr A for five minutes and then decide what action to take. Mr B then left the room to attend to other patients, leaving Mr A in Mr C's care.

When asked why he had not recorded his observations and the vital sign findings in the Clinic's notes, Mr C said that "it seemed at the time more important to attend to [Mr A's] immediate comfort, rather than recording findings which dictated no apparent seriousness urgency".

Discharge
Mr C advised me that he considered the option of referring Mr A to hospital, but as Mr A's condition seemed to be improving (his dry-retching had abated and his pallor had

improved), and Mr A indicated to him that he wanted to go home, he decided against hospital. Mr C helped Mr A to get dressed and get to his car.

Mr B advised me that approximately ten minutes after leaving Mr A with Mr C, he heard them leave the premises. He assumed that Mr C was taking Mr A to hospital.

Mr C advised me that before driving Mr A home he asked him whether anyone was there to look after him. Mr A replied that his wife and mother-in-law were at home. At this point Mr A experienced another bout of nausea and vomiting. Mr C then drove Mr A home, some 30km away, in Mr A's car with Mr C's wife following in another car.

Mr C advised me that on arrival home Mr A was "distressed and exhausted from being sick again but with assistance we walked him to his bedroom". Mr C informed Mr A's wife and mother-in-law that he had "some concern" about Mr A's "on-going sickness" and that if after a period of rest there was no improvement, they should seek medical advice or call for an ambulance. Mr C then returned to the Clinic with his wife.

Mr B advised me that Mr C returned to the Clinic approximately two hours after he and Mr A left the premises. When he asked Mr C, "So what did they say was wrong with [Mr A] at the hospital?" he was told that there was a "significant" improvement in Mr A's condition and that in accordance with his wishes, Mr C took Mr A home. Mr C informed Mr B of the instructions he left with Mr A's family.

Hospital admission

Mr A advised me that an ambulance was called a "couple of hours" after Mr C dropped him off at home. The ambulance was called on the initiative of a friend who is a volunteer ambulance officer.

Ambulance records state that the ambulance was dispatched at 3.48pm and arrived at Mr A's home at 3.52pm. The ambulance officers found Mr A in the recovery position. They noted that Mr A had just vomited, his speech was slurred, he reported feeling dizzy, and he had pain at the back of his head and neck. His Glasgow coma scale (GCS)[1] was 14 with blood pressure and pulse unremarkable. The ambulance left the house at 4.08pm and arrived at a public hospital at 4.50pm.

Mr B advised me that later that day he telephoned Mr A's home and learnt from Mrs A that her husband had been taken to hospital by ambulance. Mr B apologised to her for what had happened to her husband.

In the early hours of the morning of 16 July 2002 Mr A had an urgent MRI of the brain with MRA (magnetic resonance angiography). The scan showed extensive infarcts of the

[1] A scoring system used to estimate a patient's level of consciousness after a head injury. Eye opening is numerically graded from 1-4, motor response from 1-6 and verbal response from 1-5. The higher the score (maximum of 15), the greater the level of consciousness. A score of 7 indicates a coma.

cerebellum[2] and pons[3] caused by bilateral vertebral artery dissections (a stroke). Mr A was commenced on anticoagulants.

Mr B advised me that later that day he again telephoned Mr A's home to enquire about his progress and learnt from Mr A's mother-in-law that he had suffered a stroke. Mr B again apologised for what had happened to Mr A. The next day, on 17 July, Mr B spoke to Mr A's mother-in-law once more and learnt that Mr A was "doing much better". Mr B once again apologised for what had happened, asked for his best wishes to be passed on to Mr A, and asked to be contacted if there was any further development or if he could be of any assistance.

Discharge from hospital

While in hospital, Mr A's condition steadily improved and on 23 July he was discharged. The hospital discharge summary states that Mr A had made a good recovery; his eye signs and weakness had resolved and his speech was back to normal. He was to remain on an anticoagulant (warfarin) for a period of three months, be monitored by his general practitioner, and be reviewed at the hospital's Stroke Clinic in six to eight weeks' time.

Mr B advised me that during the week of Mr A's discharge from hospital, Mr A's parents came to see him at the Clinic, informed him of what had happened to their son, and said that he would make a full recovery. They were understanding and indicated that they did not hold him responsible for what happened. Before they left, Mr B thanked them for coming and again apologised for what had happened to Mr A.

On 10 September 2002 Mr A was reviewed by Professor D, a consultant physician at the public hospital's General Medical Clinic. In his letter to Mr A's general practitioner Professor D noted that Mr A had made a "full and complete recovery" from his illness. He recommended that Mr A cease taking warfarin but continue taking aspirin as an alternative anticoagulant, and have a repeat MRI to assess the degree of recovery. Professor D stated that he could not be sure whether Mr A's illness was spontaneous or whether it was triggered by vibrations from machinery at his work. However, there was little doubt that the osteopathic manipulation of the neck triggered the sudden attack and the onset of Mr A's illness.

On 1 October 2002 Mr A had an MRI of the brain at the public hospital. The MRI report stated that the bilateral vertebral artery dissections previously documented had resolved and that the basilar artery had recannalised (new blood vessels had formed through the previous obstructions). While old infarcts were visible, no acute lesions were detected.

[2] Part of the hindbrain associated with the control of movement, particularly in the co-ordination of voluntary muscle activity and the maintenance of balance.
[3] The nerve tissue at the base of the brain which serves to connect lobes of the brain.

Independent advice to Commissioner

The following independent expert advice was obtained from Ms Lorraine Green, a registered osteopath:

> "Please find the following report as requested, providing osteopathic advice to be used in [Mr A's] case.
>
> Professional standards that apply in this case are as follows.
>
> A comprehensive case history needs to be taken prior to any examination so that all relevant questions have been asked and recorded. The questions include the nature and location of the complaint, any associated symptoms, in this case these were, headaches, dizziness, nausea, vomiting, visual disturbances, radiating pain, pins and needles, numbness and/or weakness into the arms or legs. The practitioner also needs to ask about the onset and duration of the symptoms, the progression over time (worse, better or constant), and any factors that either aggravate or relieve the symptoms.
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> Following the case history, a physical examination is performed, including observation of posture, active and passive movement testing of the regions involved and palpation of the soft tissue structures (muscles and ligaments). Special tests that apply in this case are checking blood pressure and performing vertebrobasilar ischaemia/insufficiency test (VBI).
>
> Once the above have been carried out, a diagnosis can be formed and appropriate treatment offered to the patient or the patient may be referred to another health professional if osteopathic treatment is considered inappropriate.
>
> As detailed above, [Mr B's] pre treatment assessment met the professional standards. I cannot comment on whether the neck manipulations were performed correctly as I was not present but as [Mr B] is a graduate of a full time osteopathic course there is no reason to presume the technique was performed incorrectly. The four (4) year full time UK courses demand a high level of skill in order to graduate.
>
> There was no evidence of any predisposing condition for [Mr A] to strokes.
>
> There have been recorded cases of strokes following upper neck manipulation (as performed by various health professionals), but research indicates the risk to be very low. Recent research investigating the risk of vertebrobasilar accidents (strokes) occurring after neck manipulation 'still does not provide conclusive evidence' (1). An extract from the Journal of Bodywork and Movement Therapies states 'while there are potential serious sequelae from the use of HVLA thrust techniques (manipulation), the risks are low providing the patients are thoroughly assessed and treated by appropriately trained practitioners. With increasing evidence that spinal manipulation produces positive outcomes for acute low back pain and some categories of neck pain and headaches' (2).

The risk of strokes occurring following neck manipulation is very low. I do not feel the patient should have been informed of the risk, as he did not demonstrate any of the predisposing signs or symptoms indicating that he was at risk. Had he shown any of these signs neck manipulation would have been contraindicated anyway. Therefore although the neck manipulation on 15/07/02 is likely to have caused the stroke, [Mr B] could not have predicted that outcome and hence could not have informed [Mr A] of that possibility.

I believe [Mr B] responded appropriately to [Mr A's] new symptoms following treatment. He initially attempted to help [Mr A] and make him more comfortable, when this failed he sought advice and assistance from his senior colleague, [Mr C]. I do feel though that he could have made it clearer to [Mr C] of his wishes to have the patient taken to hospital, he obviously assumed his suggestion would be acted upon.

[Mr B] had the ultimate responsibility for [Mr A]. That responsibility transferred to [Mr C] temporarily when [Mr C] volunteered to take over his care following the treatment. [Mr B] resumed his responsibility by contacting the patient's home on several occasions to check up on his progress.

[Mr C] did not respond appropriately to the situation. In light of [Mr A's] symptoms, the severity and his apparent incoherence in response to [Mr C's] questions, the most appropriate response would have been transportation to hospital for medical assessment, preferably by ambulance.

The advice given to the patient's family once he was at home, to call for an ambulance if he deteriorated or did not improve was appropriate considering he was at home, but as stated above he should have been in hospital. Other than this formal follow up arrangements were not made, although [Mr B] appropriately rang [Mr A's] home to check on his progress.

The additional notes made on [Mr A's] case history, I presume, by [Mr C] were barely adequate. Further details of the patient's signs and symptoms whilst in [Mr C's] care and of the trip home prior to admittance to hospital, would have been more comprehensive and informative to the reader.

I hope this report has answered all your questions, please contact me if further information is required.

References:

1. Extract from Rothwell DM, Bondy SJ, Williams JI. Chiropractic and stroke: a population based case-control study. Stroke 2001; 32(5): 1054-60.
2. Gibbons P, Tehan P. Journal of Bodywork and Movement Therapies, 2001; 5: 110-119.

Supporting information received:

Letter of complaint 22/08/02, marked 'A'
Record of telephone conversation 03/10/02, marked 'B'
Letters of response 12/12/02 and 06/01/03, marked 'C'
Letters of response 03/11/02 and 29/11/03, marked 'D'
[Mr A's] records from [Mr A's general practitioner], marked 'E'
[Mr A's] records from [the public hospital], marked 'F'
[Mr A's] records from ACC, marked 'G'."

Ms Green provided the following additional advice:

"Contra-indications to cervical manipulation include, sudden onset of headache, neurological symptoms such as unilateral (one sided) sensory changes in arms or legs, weakness in arms or legs, visual or speech disturbances. Also some bony or cardiovascular pathologies. Consideration should also be given to any family history of cardiovascular pathology.

The population based control study carried out by Rothwell, Bondy and Williams 'indicates that for every 100,000 persons under 45 years of age, receiving chiropractic treatment, approx 1.3 cases of VBA (stroke) attributable to chiropractic would be observed within 1 week of manipulation.' Please note the authors admit that there are flaws in this study, and state that more research needs to be done."

Ms Green advised me that the contraindications to cervical manipulation listed above need to be considered in the context of each case, namely the patient's past history and whether more than one contraindication is present.

Code of Health and Disability Services Consumers' Rights

The following Rights in the Code of Health and Disability Services Consumers' Rights are applicable to this complaint:

RIGHT 4
Right to Services of an Appropriate Standard

1) Every consumer has the right to have services provided with reasonable care and skill.

RIGHT 6
Right to be Fully Informed

1) Every consumer has the right to the information that a reasonable consumer, in that consumer's circumstances, would expect to receive, including –

…

b) An explanation of the options available, including an assessment of the expected risks, side effects, benefits, and costs of each option; …

Opinion: No breach – Mr B

Assessment

My advisor stated that the pre-treatment assessment undertaken by Mr B met professional standards. Mr B took a comprehensive case history, noted Mr A's presenting symptoms, and carried out appropriate physical examination and tests. There was nothing to indicate that a neck manipulation was contraindicated or that Mr A had any condition that predisposed him to a stroke.

Neck manipulation

In respect of Mr A's complaint that Mr B manipulated his neck causing vertebral artery dissection, my advisor stated that although the neck manipulation is likely to have caused Mr A's stroke, there was nothing to indicate that the technique used by Mr B was performed incorrectly, or that he could have predicted the adverse outcome.

Risk disclosure

In respect of Mr A's complaint that Mr B did not provide him with information about the potential risks of neck manipulation before commencing treatment, my advisor stated that a stroke (vertebrobasilar accident) occurring after a neck manipulation is a recognised but rare complication of the procedure. Although the exact degree of risk is hard to quantify, studies suggest that this is in the range of one case per 20,000 to one case per million procedures.[4] The study referred to by my advisor suggested a figure of 1.3 strokes per 100,000 neck manipulations. In certain situations a patient may present a higher risk due to the presence of certain contraindicating conditions such as sudden onset of headache, visual or speech disturbances and neurological symptoms such as one-sided sensory changes and weakness in arms or legs.

In this case Mr A presented with no symptoms to suggest that a neck manipulation was contraindicated and there was nothing to suggest that he was at greater risk of stroke.

Accepting that the consequences of a stroke for an active and otherwise healthy man are potentially severe, and thus that the provider's obligation for disclosure is correspondingly high, I consider that a risk in the range described is sufficiently remote (~ 1 in 100,000) that there is no legal duty on a provider to disclose it.

Accordingly, in not advising Mr A of the remote possibility of a stroke, Mr B did not breach Right 6(1) of the Code.

[4] Vickers, A. and Zollman, C., "The Manipulative Therapies: Osteopathy and Chiropractic", British Medical Journal, Vol. 319, No. 7218, 30 October 1999, pp.1176-1179.

Appreciation of seriousness of symptoms
In respect of Mr A's other allegations, there is no evidence that Mr B failed to appreciate the seriousness of the symptoms Mr A developed following the neck manipulation. My advisor was of the opinion that Mr B responded appropriately to Mr A's symptoms by initially attempting to make him more comfortable and, when this failed, seeking assistance and advice from Mr C, a senior colleague. Although Mr B had ultimate responsibility for Mr A's care, that responsibility was temporarily transferred to Mr C when he volunteered to take over care. Mr B resumed responsibility when he contacted Mr A's home on several occasions after the event to check on progress. By that time Mr A was hospitalised and under medical care.

Referral to hospital
The decision whether to refer Mr A to hospital for urgent specialist assessment or take him home rested with Mr C, not Mr B. It was Mr C who decided to take Mr A home. I have noted my advisor's comment that Mr A should have been referred to hospital and that Mr B could and should have made his views on the appropriateness of a hospital admission clearer to Mr C.

I acknowledge that the complications Mr A developed following his neck manipulation were severe. However, I am satisfied that Mr B acted appropriately and did not breach the Code.

Opinion: Breach – Mr C

My advisor stated that although Mr B had ultimate responsibility for Mr A's care, that responsibility was transferred to Mr C when he volunteered to take over care after Mr A developed complications following his neck manipulation.

Given the nature of Mr A's symptoms, including their severity and his incoherence, Mr C did not respond appropriately. The appropriate response would have been to refer Mr A to hospital for urgent specialist assessment. An ambulance would have been an appropriate mode of transport. Taking Mr A home in a private car, given his symptoms and the uncertainty as to what had caused them, was not an appropriate clinical decision.

Once Mr A was at home, the advice Mr C gave to Mr A's family (to call for an ambulance if Mr A's condition deteriorated) was appropriate.

I note my advisor's comments that the notes Mr C made in respect of his involvement in the management of Mr A were "barely adequate". Mr C should have recorded fuller details of Mr A's signs and symptoms. While I accept Mr C's comment that at the time it seemed more important to attend to Mr A's immediate needs rather than to record his findings, this does not explain why his observations were not documented at a later time.

In my opinion Mr C breached Right 4(1) of the Code by failing to appreciate the seriousness of Mr A's symptoms and to refer him to hospital for urgent specialist assessment.

Actions taken – Mr C

I note that Mr C has expressed regret to Mrs A for his actions and for any pain or distress he may have caused her husband. Mr C has acknowledged an error of judgement on this occasion and that he was unaware of the true significance of Mr A's symptoms.

Following this incident Mr C issued a memorandum and addendum to the practice agreement, which states: "[I]n the event of any patient experiencing any significant distress or untoward symptoms incapacitating them or causing concern, emergency services should be called and the patient should be sent to hospital for medical assessment. Every effort should be made to contact a responsible relative should a situation arise."

Actions – Mr C

I recommend that Mr C:

- apologise in writing to Mr A for his breach of the Code. The apology is to be sent to the Commissioner and will be forwarded to Mr A.
- review his practice in light of this report.

Other actions

- A copy of this report, with personal identifying features removed, will be sent to the New Zealand Register of Osteopaths and the New Zealand Osteopathic Association, and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Names have been removed to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.