Dentist, Dr B

Dental Service

A Report by the
Deputy Health and Disability Commissioner

(Case 18HDC01472)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

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Executive summary

1. On 28 April 2018, Ms A attended an appointment at a dental service for inflamed gums, pus between her lower two front teeth, and pain.

2. Ms A was seen by a dentist, Dr B, who performed an assessment, including various tests. Based on the results and her presenting symptoms, Dr B diagnosed a non-vital tooth 41 with chronic periapical periodontitis and concurrent acute infection. Dr B presented the options of either root canal treatment or extraction, and Ms A decided to proceed with root canal treatment, and an appointment was booked for 30 April 2018.

3. On 30 April 2018, Ms A attended the appointment for the root canal treatment on tooth 41. In error, Dr B isolated tooth 31 instead of tooth 41. He therefore performed the root canal treatment on tooth 31, rather than tooth 41.

4. Upon opening up the tooth, there was no pus or blood draining from the root canal, indicating that the nerve within the tooth was non-vital. Dr B completed this stage of the root canal treatment, and scheduled an appointment for the next stage.

5. Dr B told HDC that when reviewing the radiographs and writing his notes once Ms A had left the room, he noticed that he had initiated the root canal treatment on tooth 31 rather than tooth 41.

6. Dr B said that Ms A was still at reception, so he took her to a surgery room. He immediately informed her of the error, apologised, and advised her that regrettably tooth 41 still required treatment based on the original diagnosis.

7. Subsequently, Ms A was referred to a specialist endodontist, arranged by Dr B upon Ms A's request, and the root canal treatment on tooth 31 was completed. Ms A's symptoms resolved, and tooth 41 did not require further treatment at that time.

Findings

8. Dr B failed to isolate the correct tooth for operation, and therefore performed the root canal treatment on the incorrect tooth. Dr B failed to provide services with reasonable care and skill, and, accordingly, breached Right 4(1) of the Code of Health and Disability Services Consumers' Rights.[1]

9. The dental service was not found in breach of the Code.

Recommendations

10. It was recommended that Dr B (a) provide a written letter of apology to Ms A for his breach of the Code; (b) participate in a course/training relevant to the issues raised in this case (root canal procedure, treatment planning, oral surgery); and (c) provide HDC with his reflections and learnings from this course/training, reflect on the advice provided by Dr

[1] Right 4(1) states: "Every consumer has the right to have services provided with reasonable care and skill."

Gorrie, and report back to HDC on whether any further changes could be made to his practice.

Complaint and investigation

11. The Health and Disability Commissioner (HDC) received a complaint from Ms A about the services provided by Dr B and the dental service. The following issues were identified for investigation:

- *Whether Dr B provided Ms A with an appropriate standard of care in April and May 2018.*
- *Whether the dental service provided Ms A with an appropriate standard of care in April and May 2018.*

12. This report is the opinion of Kevin Allan, Deputy Health and Disability Commissioner, and is made in accordance with the power delegated to him by the Commissioner.

13. The parties directly involved in the investigation were:

Ms A	Consumer
Dr B	Provider/dentist
Dental service	Provider

Also mentioned in this report:

Dr C	Specialist endodontist
Mr D	Dental service director

14. Independent expert advice was obtained from Dr Susan Gorrie, a dentist, and is included as **Appendix A**.

Information gathered during investigation

Background

15. Ms A (48 years old at the time of events) was experiencing inflamed gums, pus between her lower two front teeth, and pain. She attended an appointment at the dental service on 28 April 2018 in relation to these symptoms.

16. Ms A was seen by Dr B[2] on this date. Dr B performed an assessment, including X-rays, percussion tests,[3] and cold tests.[4] Dr B told HDC that based on the combination of the presenting signs and symptoms, and the results from the clinical tests, he diagnosed a non-vital[5] tooth 41[6] with chronic periapical periodontitis[7] and concurrent acute infection.

17. Dr B told HDC that this condition requires either root canal treatment[8] or extraction, and he presented these options to Ms A. Ms A decided to proceed with root canal treatment. She was given a prescription for antibiotics, and an appointment was made for 30 April 2018.

18. Mr D, one of the directors of the dental service, told HDC that in Ms A's case, a differential diagnosis would have been appropriate. This would have allowed Dr B to re-examine Ms A on another day to retest and confirm his diagnosis.

Root canal treatment on 30 April 2018

19. Ms A presented to the dental service for her scheduled appointment on this date. Dr B told HDC that he obtained verbal informed consent to proceed with the root canal treatment on tooth 41.

20. Dr B told HDC that the tooth 41 gum lesion had improved slightly after the antibiotics, and the pain was improving but was still present. Ms A was given local anaesthetic, calculus[9] was cleaned away, and the front tooth was isolated using a latex dental dam[10] with a single tooth protruding through the dam.

21. In error, Dr B isolated tooth 31,[11] instead of tooth 41. He therefore in error performed the root canal treatment on tooth 31.

22. Dr B said that Ms A reported pain when he was preparing a cavity into the tooth to gain access to the root canal space. He attributed this to local infection inhibiting the effect of the anaesthesia, and therefore he waited until the local anaesthesia took full effect.

23. Dr B told HDC that upon opening up the tooth, there was no pus or blood draining from the root canal, indicating that the nerve within the tooth was non-vital. Dr B said that after shaping and thoroughly disinfecting the root canal, the space was filled with an antibacterial dressing and sealed temporarily. Dr B completed this stage of the root canal

[2] Dr B is a registered dentist with an annual practising certificate from the Dental Council of New Zealand. He is also a member of the New Zealand Dental Association. […]
[3] Assessment involving striking the tooth with an instrument, to determine tooth sensitivity.
[4] Used to detect the vitality of a tooth.
[5] Also known as a "dead" tooth — a tooth that does not have blood flow to it.
[6] Lower front right tooth (incisor).
[7] A chronic inflammatory lesion around the apex of a tooth root.
[8] A procedure to save a tooth by removing the contents of its root canal and filling the cavity with a protective substance.
[9] Hardened dental plaque.
[10] A thin sheet made of latex used to isolate the operative site.
[11] Lower front left tooth (incisor).

treatment, and scheduled an appointment for the next stage of filling and finalising the root canal in a fortnight's time.

Discovery of error

24. Dr B told HDC that once Ms A had left the surgery room, he reviewed the radiographs while writing his notes. At this point, he noticed that he had initiated the root canal on tooth 31 rather than tooth 41.

25. Dr B said that Ms A was still at reception, so he took her to a surgery room. He immediately informed her of the error, apologised, and advised her that regrettably tooth 41 still required treatment based on the original diagnosis. An appointment was booked for 9 May 2018.

Subsequent events

26. On 5 May 2018, Ms A and her husband met with Dr B to discuss the situation further. Dr B told HDC that he also performed a brief clinical check on this day. He apologised again and discussed the treatment of tooth 41 and finishing the treatment of tooth 31 (filling and finalising the root canal).

27. On 8 May 2018, Dr B referred Ms A to Dr C, a specialist endodontist, upon Ms A's request for a second opinion.

28. ACC forms were completed for the incident. Ms A told HDC that the treatment for tooth 31 was completed. Dr B confirmed that he received a report from Dr C detailing the successful completion of treatment, that Ms A's symptoms had resolved, and that tooth 41 did not require further treatment at that time.

Further information — Dr B

29. Dr B acknowledged that his mistake of isolating and thereby treating an unintended tooth was an unacceptable error.

30. Dr B sincerely regrets the stress and injury he caused Ms A, and is sorry that she has had this experience. He said that he is now acutely cognisant of the extent of injury and trauma that his errors as a healthcare professional can have, and that this will be a sombre reminder that he will take into the rest of his career. He said that he will do his utmost to ensure that he does not make the same error again.

31. Dr B said that he has reflected on this mistake, and has discussed it extensively with peers, mentors, and the practice owners, to improve his protocols and prevent this ever happening again. He has also implemented recommendations made by my expert advisor in his daily practice.

32. Dr B said that the application of the dental dam on the single tooth contributed towards his error, and resulted in not being able to orient himself with adjacent teeth, and treatment of the wrong tooth. He stated that to prevent this in future, he has

implemented a policy to always apply a dental dam with multiple teeth isolated together, to enable clear identification of all teeth in the area.

33. Dr B said that to his knowledge, there are no published prescriptive standard operating procedures in New Zealand with respect to root canal treatment. He stated that he follows professionally accepted standards of diagnostic tests, isolation, and technique for root canal treatment, as per his training.

Diagnosis of tooth 41 as requiring root canal treatment

34. Dr B acknowledged the value of non-invasive treatment as an important diagnostic tool, and that he could have considered other possible contributing factors to Ms A's presenting condition prior to commencing treatment. He reflected that this may have resulted in better identification of the cause of Ms A's condition.

35. Dr B told HDC that he has implemented additional protocols, such as repeating clinical tests and checking for changes in symptoms at treatment appointments prior to initiating treatment or re-discussing appropriate treatment options, taking a precautionary approach where diagnosis is questionable, marking teeth planned for treatment, and not using single tooth isolation unless completely unavoidable.

Further information — the dental service

36. Mr D, one of the directors of the dental service, told HDC that an internal review was conducted and a meeting was held with Dr B to understand the events leading up to the treatment of the incorrect tooth. Mr D said that they concluded that based on the initial diagnosis, tooth 41 should have been treated instead of tooth 31. He said that this was unacceptable, but could not have been mitigated by the practice and can be attributed solely to human error. He confirmed that Dr B has subsequently taken steps to mitigate this error re-occurring.

37. Mr D said that the practice advises clinicians to present and provide treatment that is reversible and non-invasive when a conclusive diagnosis cannot be made. Where there is little conclusive evidence to suggest a definitive treatment, a more conservative treatment should be considered. Mr D acknowledged that human errors do occur, and said that the lesson from this case is that if there is any doubt about the definitive diagnosis, then treatment should not be carried out. He stated that differential diagnosis is always necessary, and the utmost care needs to be taken such that if any treatment is proposed, then it is executed correctly. He confirmed that multiple teeth isolation and/or labelling of teeth prior to dental dam placements have been adopted by Dr B, and this information has been communicated to the rest of the practice.

38. Mr D said that the Dental Council of New Zealand and the New Zealand Dental Association do not have published prescriptive standard operating procedures regarding root canal treatment. He stated that as a practice, they rely on the professional training and competence of their clinicians in providing treatment.

Responses to provisional decision

Ms A

39. Ms A was given an opportunity to comment on the "information gathered" section of the provisional decision and provided a response. Ms A stated that trust is placed in professionals to carry out their duties with the correct procedures in a competent way, and she hopes that this does not happen to another patient. She acknowledged that mistakes can happen, but felt that this should not have occurred. She appreciates that Dr B apologised, and hopes that he can learn from his mistakes.

Dr B

40. Dr B was given an opportunity to comment on the provisional decision. He agreed with the findings and proposed recommendations.

The dental service

41. The dental service was given an opportunity to comment on the provisional decision, and advised that it had no further comments to make.

Opinion: Dr B — breach

Diagnosis of tooth 41 as requiring root canal treatment

42. On 28 April 2018, Ms A attended an appointment with Dr B, with symptoms of inflamed gums, pain, and pus-like discharge. A diagnosis of a non-vital tooth 41 with chronic periapical periodontitis and concurrent acute infection was made.

43. My expert advisor, Dr Susan Gorrie, noted Dr B's clinical findings and the testing he performed. She stated that on review of a photograph of Ms A's lower incisor teeth, she noted what appears to be calculus and a swollen misshapen gingiva associated with tooth 31. She reported that this raised the possibility that the offending tooth was tooth 31 all along.

44. Dr Gorrie noted that there was no differential diagnosis in the notes. She said that in this situation, she would be considering whether the pain and inflammation was gum related associated with the calculus or possibly an injury. She noted that she would be suspicious of a diagnosis of periapical periodontitis in an intact unfilled tooth, which this appears to be, without a corresponding history of trauma. Dr Gorrie advised that whilst this was not a deviation from the accepted standard of care, the diagnosis may have been achieved a little too hastily.

45. I accept Dr Gorrie's advice, and note the reflections and changes Dr B has made to his practice in relation to assessment and diagnosis — in particular, taking a precautionary approach where diagnosis is questionable.

Treatment of incorrect tooth

46. On 30 April 2018, Dr B performed root canal treatment on Ms A's tooth 31 rather than tooth 41 in error.

47. Dr Gorrie advised that in her opinion, although the diagnosis of tooth 41 as needing root canal treatment remains in question, given Dr B's diagnosis, tooth 41 should have been treated, and it is unacceptable that this was not the case. She advised that this is a severe departure from the accepted standard of care, and would be viewed as so by her peers.

48. Dr Gorrie does comment, however, that to err is human and, in her view, it is how the situation is handled that becomes important, and that in this case, Dr B's actions following his error met accepted standards. She also advised that once root canal treatment is started, it must be completed, as not completing the procedure will result in infection and possible loss of the tooth, and, therefore, continuing the procedure on this tooth met accepted standards.

49. I accept Dr Gorrie's advice. I find that by failing to isolate the correct tooth for operation, and therefore performing the root canal treatment on the incorrect tooth, Dr B failed to provide services with reasonable care and skill, and, accordingly, breached Right 4(1) of the Code.

50. I acknowledge the actions Dr B took following the discovery of his error, and consider that his apology, facilitation of specialist referral upon Ms A's request, and completion of the ACC forms were appropriate. Dr B's open disclosure of the error to Ms A without delay was also appropriate.

Opinion: Dental service — no breach

51. As a healthcare provider, the dental service is responsible for providing services in accordance with the Code.

52. The dental service does not have in place any policies or standard operating procedures relating to root canal treatment, surgical procedures, and checking processes prior to treatment. It advised that the Dental Council of New Zealand and the New Zealand Dental Association do not have published prescriptive standard operating procedures regarding root canal treatment, and the practice relies on the professional training and competence of its clinicians in providing treatment.

53. Dr Gorrie advised that it is reasonable not to have internal policies, particularly for procedures such as root canal treatment, as matters such as the techniques, systems, and material utilised depend on the individual clinician. She advised that a policy or standard operating procedure should not dictate clinical decision-making or a clinician's preferred approach.

54. I accept Dr Gorrie's advice that it was reasonable for the dental service not to have such policies in place. I consider that the error that occurred in this case does not indicate broader systems or organisational issues at the dental service. I also note that the dental service, after becoming aware of the complaint, immediately conducted an internal review, discussed Dr B's learnings from the complaint with the rest of the practice, and submitted an "ACC Treatment Injury Event Notification—Provider Feedback Form" to the Ministry of Health. Therefore, I consider that the dental service did not breach the Code.

Recommendations

55. I recommend that Dr B:

a) Provide a written letter of apology to Ms A for his breach of the Code. The apology letter should be sent to HDC within three weeks of the date of this report, for forwarding to Ms A.

b) Participate in a course/training relevant to the issues raised in this case (root canal procedure, treatment planning, oral surgery), provided by the New Zealand Dental Association, and provide HDC with his reflections and learnings from this course/training, within three months of the date of this report.

c) Reflect on the advice provided by Dr Gorrie, and report back to HDC on whether any further changes could be made to his practice, within three months of the date of this report.

Follow-up actions

56. A copy of this report with details identifying the parties removed, except the expert who advised on this case, will be sent to the Dental Council of New Zealand, and it will be advised of Dr B's name.

57. A copy of this report with details identifying the parties removed, except the expert who advised on this case, will be sent to the New Zealand Dental Association, for educational purposes.

58. A copy of this report with details identifying the parties removed, except the expert who advised on this case, will be placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Appendix A: Independent advice to the Commissioner

The following expert advice was obtained from Dr Susan Gorrie:

"I have read and agree to follow the Commissioner's guidelines for independent advisors.

My name is Susan Gorrie. I am a general dentist in private practice in Christchurch. I have been in practice for 38 years. I completed my BDS at Otago in 1981 and a postgraduate diploma in restorative dentistry in 1991. I am a Fellow of the International College of Dentists. I have an interest in restorative Dentistry.

I have been asked to review the documents and provide an opinion on the following issues:

1. [Dr B's] assessment of [Ms A's] teeth.
2. The appropriateness of diagnosing tooth 41 as requiring root canal treatment.
3. The adequacy of [Dr B's] pre procedure checks to ensure isolation of the correct tooth.
4. [Dr B's] decision to continue with the root canal treatment on tooth 31 upon opening it.
5. Any other matters in this case that you consider amount to a departure from accepted standards.

I have been provided with the following documents:

1. Letter of complaint dated […]
2. [The dental service's] response dated 10 September 2018.
3. Clinical records from [the dental service] from April 2018 onwards.

1. and 2.

[Ms A] presented with pain and inflamed gums between the lower central incisor teeth. There was report of a swelling and a pus like discharge. [Dr B] did not observe the discharge. The pain was dull and diffuse in nature.

The clinical findings report a sinus type lesion on the gingival margin of 41 which was tender to palpation and probing. Periodontal probing was carried out and the pockets were within accepted normal depths. Note was made of moderate amounts of calculus and the worn incisal edges of the teeth. The teeth were not mobile.

[Dr B] performed a number of special tests: A Periapical radiograph, from which tooth 41 was diagnosed with a periapical radiolucency. Subsequent imaging carried out by [Dr C] did not confirm a radiolucency. Calculus deposits were visible on the x ray. Also Percussion sensitivity where teeth 31 41 and 42 reported as tender to percussion, and Thermal testing with a cold spray. Tooth 41 was identified as having a negative

response to the thermal testing. On its own thermal testing is not conclusive of a non vital tooth but in conjunction with radiographic findings and other signs and symptoms may be helpful in achieving a diagnosis.

A photograph I have been provided with of the lower incisor teeth (undated) shows what looks to be calculus and a swollen misshapen gingiva associated with tooth 31. This raises the possibility to me that the offending tooth was 31 all along. However there has been no mention of a differential diagnosis in the notes. In this situation I would be considering whether the pain and inflammation was gum related (paradontal) associated with the calculus and possibly a traumatic incident — in this case even the trauma of occlusion as there is evidence of tooth wear. Or periapical, in other words associated with a dead or dying tooth nerve or even a combination of both.

I would want to know the colour of the tooth; a discoloured tooth may indicate past trauma to the tooth. In my mind I would be suspicious of a diagnosis of periapical periodontitis (nerve death) in an intact unfilled tooth, which this appears to be, without a corresponding history of trauma.

In my opinion I don't think there has been a deviation from the accepted standard of care but the diagnosis may have been achieved a little too hastily.

I would recommend always questioning your diagnosis and reviewing at subsequent appointments to see if any of the signs and symptoms have changed in the meantime. I would recommend starting with the simplest treatment first as an aid to diagnosis. In this case cleaning the teeth to remove all irritants, oral hygiene advice with interdental brushes and not prescribing antibiotics. This treatment then becomes a diagnostic tool. The antibiotics mask symptoms. If the gum swelling and pain resolves with a clean then there's your diagnosis! If pain persists or worsens then it is easier to locate. Diagnosis is not always straightforward and sometimes it takes time.

3. [Dr B] had diagnosed tooth 41 as needing root canal treatment, whether this was the correct diagnosis remains in question in my opinion. However with this diagnosis tooth 41 should have been treated and it is unacceptable that this was not the case. This is a severe departure from the accepted standard of care, and would be viewed so by my peers. However at the same time it would be recognised that we can all make mistakes. To err is human, and it is how you handle the situation that becomes important. In this case [Dr B] did everything right, as soon as he realised his error he informed the patient, apologised, arranged for a specialist to continue the care at no cost to the patient and refunded the fees. ACC treatment injury forms were filled in. This is the accepted standard of care in this situation.

To avoid clamping the wrong tooth during root canal procedures I would advise always counting and identifying the teeth before the dam goes on, and again after placement lifting the dam to double check, one could also mark the tooth to be

treated with a pen to identify it or, as [Dr B] advises he is now doing, by clamping more than one tooth so it is more readily identifiable.

4. Once root canal treatment is started it must be completed. Not completing the procedure will result in infection and possible loss of the tooth.

This is the accepted standard of care and indeed [Dr B] ensured the best outcome by referral to a specialist.

5. Misdiagnosis or treatment of the correct tooth inadvertently or an unnecessary root canal procedure? It is impossible to say. As [Ms A] says she does not want this to happen to anybody else, I am sorry she has had this experience.

Susan Gorrie"

Further advice from Dr Susan Gorrie on 10 May 2019:

"It was reasonable not to have internal policies/procedures/guidelines, particularly for procedures such as root canal procedures, as they require a lot of clinical decision making. There are standard basic requirements such as using a rubber dam for a root canal procedure, however there are many systems, techniques, and materials that could be utilised, and it is up to the individual practitioner to determine their preferred approach and what works for them. No two practitioners would do exactly the same, and there should not be a standard operating procedure to dictate clinical decision making and approach.

It would therefore be inappropriate to recommend that the practice develop such internal policies. It is difficult to make a specific recommendation, as there are many factors going on before an error might occur. However, consideration could be given to a safety policy, or a basic safety checklist but nothing further than that."