WINSPERT

# OSCE CASES

## RED SET

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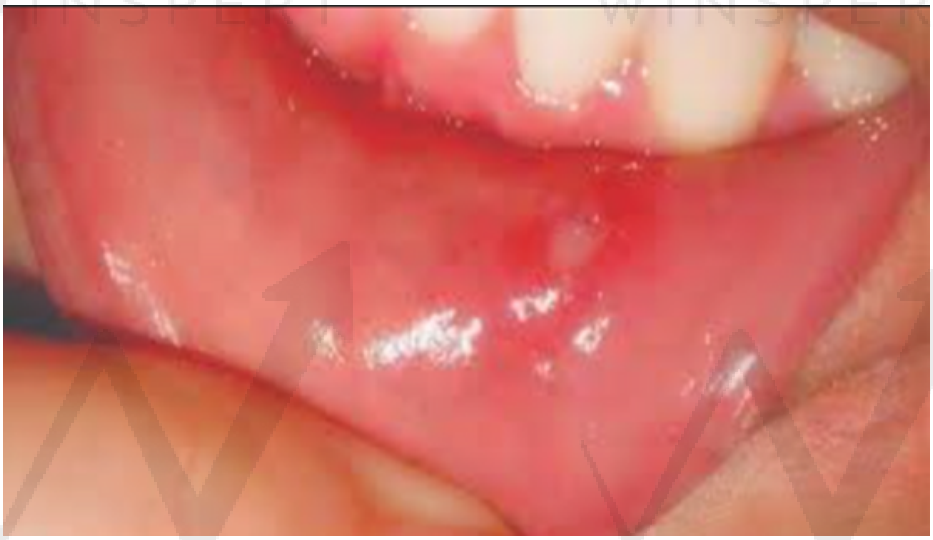
# RED SET: CLUSTER 1
(Clinical Information Gathering)
# APHTHOUS ULCER IN A PATIENT

## VERSION 1



Charlotte, a 20 year old law student, has come to your clinic today with a complaint of mouth ulceration. Ulcers have persisted for more than the past 5 days. She is under considerable stress due to her upcoming final exams in two months. Upon examination, you observe an ulcer on the inner side of her lips. She mentions that her sister also experiences similar ulcers.

**Describe the special tests you would conduct and provide your differential diagnosis along with your provisional diagnosis.**

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# RED SET: CLUSTER 1

(Clinical Information Gathering)

## APHTHOUS ULCER IN A PATIENT

**VERSION 2**

Charlotte, a 20 year old law student, has come to your clinic today with a complaint of mouth ulceration. Ulcers have persisted for more than the past 5 days. She is under considerable stress due to her upcoming final exams in two months. Upon examination, you observe an ulcer on the inner side of her lips. She mentions that her sister also experiences similar ulcers and has a history of coeliac disease.

**Describe the special tests you would conduct and provide your differential diagnosis along with your provisional diagnosis.**

# CASE:

## Opening remarks/ Introduction:

(Ulcers could be very painful and affect a patient's day-to-day life to a greater extent. So being empathetic is a lot more important).
Charlotte, it must be so painful to have an ulcer. Moreover, with exams coming it's not the best time. (Patient will comment after this).
Are you able to eat and drink, Charlotte? Is pain affecting your speech?
Have you applied any gel (topical analgesic) to help you with the pain?

## Exploring the chief complaint:

Charlotte, are you experiencing ulcers for the first time?
If previous episodes were there, how long did it take to heal? Is it always at the same site?
Is it just one ulcer? Do you have ulcers anywhere else on your body?
Charlotte, did you notice any blisters prior to ulceration?
What symptoms are you experiencing other than pain? Any bleeding/discharge/numbness/ tingling ?
How about a fever? Or swelling near the area?
Charlotte, the most common cause of ulcer is trauma, do you recall biting down on anything hard? Or broken filling/ sharp tooth in the area? Do you wear any appliance for your mouth (ortho appliance)?
Thank you for filling out the form in detail for us, but would you recall any particular trigger that would have stimulated ulceration?
Also, I appreciate your patience with all my questions amidst the painful ulcer. You are helping me understand the cause for your ulcer.

## Relevant history and it's correlation:

(Charlotte, if at any stage it's really uncomfortable, please do not hesitate to let us know. Add this if the patient hasn't eaten or drank anything because of pain).

### 1 Family history and Medical history:

You mentioned your sister experiences similar ulcers and has coeliac disease. That was crucial information for us.
Coeliac disease has a manifestation within our mouth in the form of ulcers. Are you aware if you have coeliac disease? As it could be present within family lineage and can go unnoticed.
Do you have any tummy issues? Food intolerance? Or any allergies?
Any changes within your monthly cycle? (For women)

## 2 Social History

Also, you mentioned about approaching exams, how are you coping with the stress? Stress is an important component to give rise to an ulcer in the mouth. Do you think it's impacting your diet?
Stress has a lot more impact on our health. Charlotte, I want to extend my support if you need help in managing stress. There are several provisions within university which could help you as well with stress.
Would you recall any significant changes to your lifestyle?
Charlotte, do you happen to smoke? Or consume alcohol?

## 3 Dental history/ oral hygiene history:

Have there been any recent changes to your toothbrush or toothpaste?

## Differential diagnosis and possible provisional diagnosis:

(Mention about the differential diagnosis if you get a positive history for them. Mostly likely it's a recurrent aphthous ulcerative disease in her case).

- Charlotte, as I mentioned the most common cause for an ulcer is trauma. Traumatic ulcers arise because of a broken tooth, traumatic bite, changes to toothpaste or toothbrush, or because of any burns. It should resolve within 7-14 days.
- Recurrent aphthous ulcerative disease. Also known as recurrent aphthous ulcers or recurrent aphthous stomatitis, which is a most common form of non-traumatic ulcers.
  In your case it's a minor RAS. There could be various reasons for the same ranging from
  1. Autoimmune background (coeliac disease, food intolerance, Behcet disease).
  2. Modifications to lifestyle: Stress, recent quitting of smoking, non-nutritious diet. (Promote lifestyle modification here).
  3. Nutritional deficiencies: Iron, Vitamin B12, folate or zinc deficiency.
  4. Systemic disease: Ulcerative colitis, coeliac disease or Behcet's disease).
- Viral cause of ulcer: If blister is present before ulcer. And association of fever. It could be a case of oral mucocutaneous Herpes.

Any questions so far Charlotte?

## Investigations:

Charlotte, for now I will have a detailed look, to understand the possible cause better.
Extraoral: I will begin with checking any swollen areas on your face or around the neck (swollen lymph nodes). I will check if you have any fever with the thermometer.
Intraoral: Inside your mouth, I will have a thorough look at the ulcer. Check its site, size and margins. I will also look for bleeding, presence of discharge.
I will also check for any broken tooth/ filling.

## Investigations:

### Special investigations:

Also, I will give you a referral to a GP for a blood test to check for the possibility of nutritional deficiencies.

I will review you in 2 weeks, to see if it's healing. If no changes are observed, it would be best to see an Oral medicine specialist for further investigations.
It may take a longer time and multidisciplinary team ( GP/ Specialist ) but it will help to prevent painful future episodes. As ulcers can be the first sign of Systemic disease like Crohn or Coeliac disease, that is why it's important to do more investigations.

## Pain management:

In case of pain, I will prescribe you a 1% Benzydamine gel, apply smear 2-3 hourly.
Avoid eating spicy/ hot/ fizzy/ sour food during ulcer period.
I would advise adequate oral hygiene measures, as it promotes ulcer healing. (Advice on oral hygiene measures).

If you have enough information to give a provisional diagnosis talk about Recurrent Aphthous ulcerative disease: major/minor/ herpetiform.

## Important features of the case:

- Understanding the history of ulcer in detail. Then relevant history in terms of ulcer.
- Differential diagnosis only based on the patient's information given to us and from our history collection.
- Investigations along with referral to GP. And to an oral medicine specialist if the ulcer does not heal in 2 weeks.
- Understanding all the possible causes of ulcer for us to ask right history questions.

## Important links to read to understand this case better:

### Oral/Aphthous ulcers:

Read a section on aphthous ulcers in Therapeutic guidelines and watch videos to understand better.

https://www.healthdirect.gov.au/mouth-sores-and-ulcers

https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/mouth-ulcers

https://www.aafp.org/pubs/afp/issues/2000/0701/p149.htm

### Drugs/ Medications as the cause of oral ulcers:

Oral ulcerations due to drug medications - ScienceDirect

### Toothpaste irritating gums:
### (understand only the aspect of how toothpaste can irritate gums from this article).

Toothpaste ingredients can lead to lesions | Registered Dental Hygienists (rdhmag.com)

https://www.cancer.org.au/assets/pdf/mouth-health-and-cancer-treatment

### Smoking cessation and aphthous ulcers:

https://www.ompj.org/files/5421174b387fd33ff4655a0ec1edefd0-Mini%20Review-1.pdf

https://pubmed.ncbi.nlm.nih.gov/15370162/#:~:text=After%20stopping%20smoking%2C%20some%2040,in%2060%25%20of%20patients%20affected.

### Oral ulcers presentation in systemic diseases:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6953949/

### Coeliac disease:

Diagnosing coeliac disease – the key facts - Coeliac Australia

Resources - Coeliac Australia

https://www1.racgp.org.au/ajgp/2018/january-february/interpreting-tests-for-coeliac-disease-1

https://www.mayoclinic.org/diseases-conditions/celiac-disease/diagnosis-treatment/drc-20352225#:~:text=Two%20blood%20tests%20can%20help,to%20rule%20out%20celiac%20disease.

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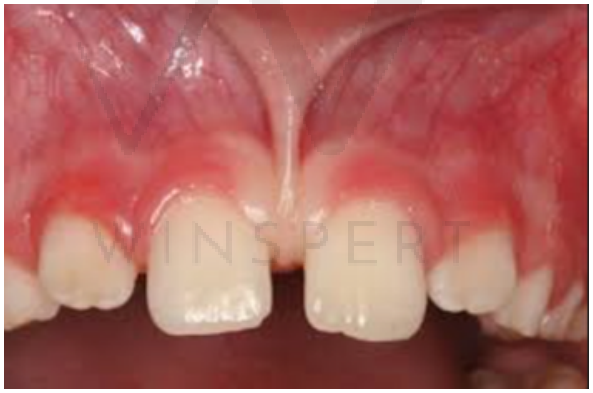
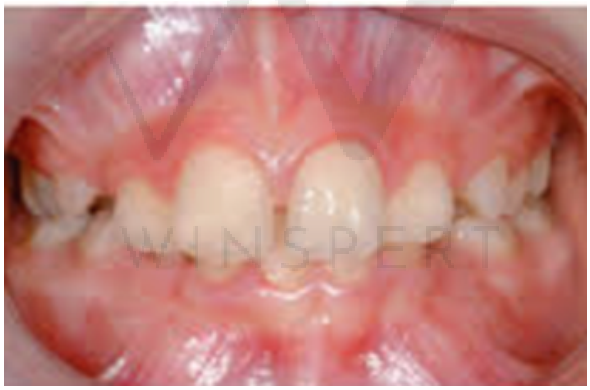
# RED SET: CLUSTER 1

(Clinical Information Gathering)

## 10 YEARS OLD MISSING CANINE IN A PATIENT





Julie, a 10 year old girl, visits the clinic with her mother. She has bilaterally missing canines in both her upper and lower jaws. Her mother is concerned about Julie's appearance due to her splayed front teeth, which they believe are too large. Additionally, the canines are absent in both jaws. The parent can feel a bulge in the lower jaw, indicating that the canines might be erupting, but there is no similar bulge in the upper jaw.

**Gather information, explain and respond to mum's concerns.**

# CASE:

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## Introductory paragraph:

Hello Julie's mum, my name is Dr... and I will be looking after you today. How do you want me to address you?
I see you are here for concerns regarding Julie's front teeth. What worries you the most Mrs/ Ms...?
(understand is it the teeth appearance as being big, gap between the centrals, no space for canines, or missing teeth?).
Mrs./ Ms..., I noticed a few more things which I want to understand. Is it okay if I ask a few relevant questions for better understanding?

## Relevant history:

### 1 Medical history:

How is Julie doing medically? How would you describe her overall development?

### 2 Dental history:

How often does she visit the dentist? Any previous x-rays that were done for her?
When did Julie's baby teeth fall in this area? Does she have habits of thumb/ finger sucking, prolonged bottle feeding?
Did she have injuries with her baby teeth?

### 3 Family history:

Anyone in the family with missing/ crowded teeth? Does Julie have siblings? Did they experience something similar?

## Explanation about the concerns:

### Space between the teeth:

At this age it's normal to have space around 2-3 mm between two front teeth. We call that as ugly duckling phase, however with the erupting eye teeth, it does close the gap.
In Julie's case it appears to be more than 4mm, and thus it's concerning. The reason for that could be:

- Mesiodens: A special additional tooth is sometimes present in between embedded within gums.
- Parafunctional habits: Thumb sucking/ finger sucking/ prolonged bottle feeding can add pressure on teeth and the jaw to create spaces in between. (Prolonged such habits even after 5 years can affect the teeth).
- Deep frenum attachment: There is a thick band of tissue running from lip to the gums, if it is attached near the neck of the tooth, then thick band prevents it's closure.
- Abnormalities associated with any of the tooth like cyst, under the gums.

**Missing canines:**

Canines in the upper jaw (eye tooth) are rarely missing but there is a big chance of them being impacted. They erupt around 11-13 years of age but by age of 10-11 we should appreciate the bulge within gums. If canines are impacted very high then there may not be bulge at all. This can be checked by x ray.
You are feeling the bulge in the lower jaw, because canines erupt around the age of 9-10 years of age. So, you are feeling the bulge at this age rather than them being erupted. So, possibly, she is having a delayed eruption with her eye teeth.

Are you following so far? Please do not hesitate to ask me questions at any stage.

**Big appearance of the teeth:**

She has adult teeth now at the front and the adjacent teeth are still baby teeth. So, comparatively her teeth are looking big. Moreover, her jaw is at a growing stage, it should settle down within a few years.

In a few situations, if the size of the jaw is inherited from one parent whose jaw is small and the size of the tooth from the other parent whose teeth are comparatively small, then the appearance of teeth can be big.

Do you have any questions for me?
(Here use anything that you could appreciate on an image given on the day of exam or whatever positive history is given by the patient.)

**Investigations:**

To get a better picture, I will perform a few tests if you are happy for me to go ahead.
I will start from outside of your mouth, to check the facial profile (structure from outside). Also, I will look for lip compatibility.
Inside your mouth, I will have a thorough look and count all your teeth. Check for the bulge on the gums myself. I will also measure the gap between teeth.
To check the attachment of muscle that is preventing the closure of teeth, I will perform a blanch test - where I will pull your upper lip slightly to see blanching near the neck of the front teeth.
I would also prefer to take a panoramic x-ray which will give me an overview of all her teeth and if any teeth are impacted.
Additionally, I will give you a referral to an orthodontist, as these teeth aligning specialists can do a space analysis to understand if any early intervention is needed.

## Important features of this case:

- Jaw – teeth discrepancies
- Relation between early exfoliation and crowding
- Ectopic canines
- Referral to an Orthodontist for early intervention.
- Focus primarily on the patient's main concerns. Listen to the patient very carefully as much information will be told when asked (and not written on the screen).
- If you have time, try to do health promotion by telling the importance of oral hygiene especially if a patient is going to have orthodontic treatment in the near future. We need to make sure that he will be ready for it by treating all dental caries and educating patients about proper oral hygiene.

## Important links to read to understand this case better:

### Understanding impacted canines:

http://firstsmiles.com.au/wp-content/uploads/2018/08/The-Impacted-Maxillary-Canine-Revisiting-the-Clinical-Guideline-with-Case-Illustrations.pdf

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5376450/

### Radiographic evaluation of impacted canines (don't focus on treatment in this article):

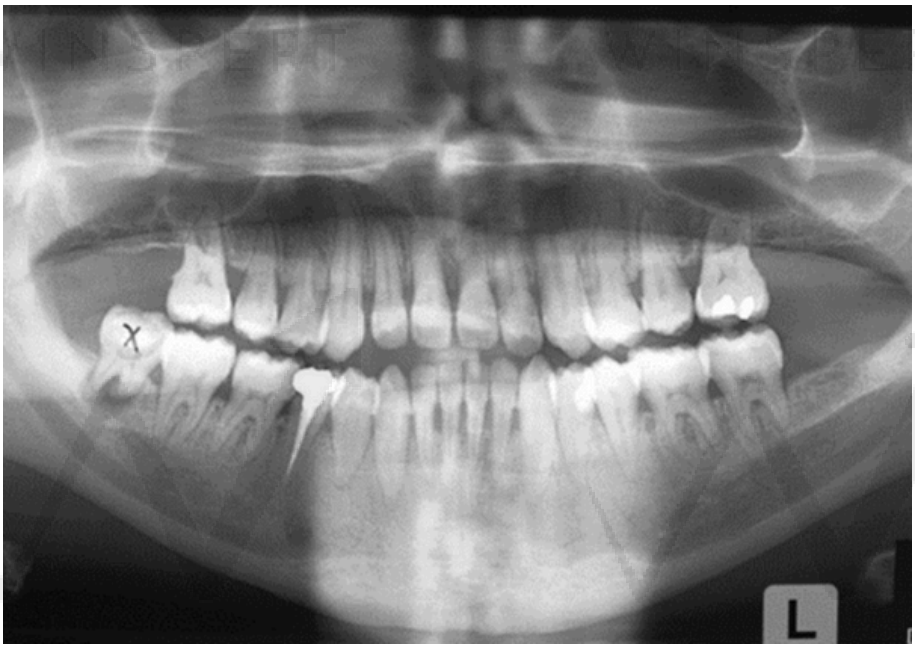
https://www.ijss-sn.com/uploads/2/0/1/5/20153321/ijss_jan_ra02.pdf

# RED SET: CLUSTER 2

(Diagnosis and Management)

# PATIENT WITH CHRONIC GENERALISED PERIODONTITIS

## VERSION IN PRACTICAL HANDBOOK:




Mrs Wilson is 45 years-old and is a new patient to your practice. She attends today requesting a scale and clean as her previous dentist of 20 years has recently retired. You note that Mrs Wilson's medical history is clear but she reports that she smokes 10 cigarettes a day and has a family history of early tooth loss. Mrs Wilson has brought along an orthopantomograph (OPG), taken at her last dental appointment where she had tooth 48 extracted. Today, you have performed a full periodontal examination including periodontal charting. You find heavy plaque and calculus deposits, with some bleeding on probing at deeper sites. You record generalised probing depths of 5-6mm and recession of up to 2mm on the lower anterior teeth.

**Explain your diagnosis to Mrs Wilson and work towards gaining informed consent for your management plan.**

# CASE:

## Introductory paragraph:

Mrs Wilson, great on you for being regular with check up and cleans for 20 years. I have done my examination, however I would like to know are you having any concerns that you want to mention to me?

Any bleeding gums? Or wobbly teeth?

## Explanation of findings:

Thank you for getting your x-ray, Mrs. Wilson. After 6 months, we do expect build up in patients in the form of deposits, however, I notice you have comparatively more. Along with that, I noticed a few bleeding spots while checking gum depths. Let me explain to you on x-ray, can you see the bone levels that I'm pointing at. These lie at the neck of the teeth, can you appreciate how it's gone down.

Above this jaw bone lies our gums. I noticed a few areas where your gums have also gone down, we call that as gum recession. And overall depths of gums normally range between 2-3mm but I noticed they are ranging between 5-6mm for you.

Mrs. Wilson, are you okay so far?

## Explanation of Diagnosis:

Mrs. Wilson, we appreciate your honesty with cigarettes you smoke and history of early tooth loss. This vital information alongside my findings raises my suspicion of you having gum and bone disease.

Mrs. Wilson I will explain to you in detail, but any questions before that?
The term to describe your condition is Chronic generalised moderate to severe periodontitis (along with areas of localised severe periodontitis)

Let me explain to you, generalised means involving all your teeth and periodontitis means inflammation of gum and the bone, both supporting tooth structures are involved.
In terms of severity, you are at a moderate to severe stage.

Are you okay so far, Mrs Wilson? Please do not hesitate to stop and ask anything at any stage.

## Relevant history:

Why this could be happening to you, there are several factors responsible.

1. **Medical history:**

   Medically, are you fit and well? Any medical conditions or medications I should be aware of? When was your last blood test done?

2. **Oral hygiene history:**

   What is your routine for oral hygiene? Do you use any interdental aids?

3. **Social history:**

   How long have you been smoking for, Mrs Wilson?

## Pathophysiology and correlation with the risk factors:

With your family history, you are at risk of having periodontitis. As, just like our hair and skin, we inherit genes for the teeth and its supporting structures as well.

Moreover, with smoking (the effect on the mouth is for.....years), it creates an environment with the dryness and reduces your immunity by reducing the saliva and blood flow respectively. Thus, the healing potential of your body is reduced.

### Smoking cessation:

Knowing how it impacts our mouth and also it has an impact on our general body too. Have you considered quitting smoking in the past? Would you want to discuss those? The help available is free with quitline numbers.
I can provide you with brochures of quitting and whenever you are comfortable we can discuss.

Additionally, oral hygiene, medical condition and medications have a
Greater impact on the health of our gums as well. (Relate the risk factors depending on the patient's answers).

We appreciate how you are regular with dental visits, as the professional cleans are important too.

Are you able to follow so far, Mrs. Wilson?

## Management:

Mrs. Wilson, I would like you to know that there is always an option of no treatment. However, we do not want the progression of your condition.

With the severity in your case, Mrs Wilson it's best to be seen by a gum specialist we term them as periodontists. As, with their expertise in the field, appropriate measures are taken. But, there are waiting times involved and additional costs.

What are your hopes for today, Mrs. Wilson? (If she wants some clean done, or she is happy to see a periodontist directly).

I do understand you are here to clean today, I'm happy to do it for you. With my cleans, as I do not have specific instruments, to reach those deep areas, my clean would be superficial and there could be some foci left in the deeper areas. We can do a regular clean and then you can see a periodontist with the referral I will give you.

As we had discussed there are multiple factors responsible for gum and bone disease, we need to target all of those. You are trying your best, I will walk you through the optimum oral hygiene measure, so we can become efficient in those.
(If a patient is unaware of medical status, and hasn't had a recent blood test - then referral to GP to get blood test done. As blood profiles help us understand some immunological or nutritional factors that can be deficient and somewhere responsible for our condition).

I will give you everything in writing, so you can decide on these options at ease. But, they are very important for us to stabilise your condition.

Do you have any questions for me, Mrs. Wilson?

## Important features of the case:

- Explaining findings with x-ray and her given information.
- Diagnosis explanation in a patient friendly language.
- Correlation of positive risk factors and modifying them.
- Mentioning all treatment options but to not forget what the patient was hoping for from today's appointment.

**Important links to read to understand this case better:**

**Periodontal disease and it's classification:**

https://www.healthdirect.gov.au/gum-disease

https://www.perio.org/wp-content/uploads/2019/08/Staging-and-Grading-Periodontitis.pdf

**Effect of smoking and vaping on oral health/ Quitting options:**

https://www.quit.org.au/

https://www.dhsv.org.au/oral-health-programs?external-uuid=c3009c49-4042-49c7-9857-4ce01bbaf7e0

https://www.betterhealth.vic.gov.au/health/healthyliving/smoking-and-oral-health

https://www.cdc.gov/tobacco/campaign/tips/diseases/periodontal-gum-disease.html

**Dealing with complaints:**

https://hcc.vic.gov.au/public/about-complaints

https://www.dentalprotection.org/australia/for-members/membership-faqs/what-happens-when-i-retire-or-cease-dental-practice-in-australia

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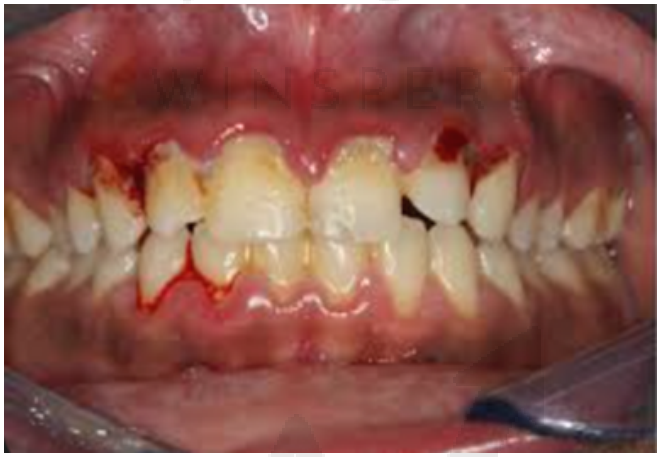
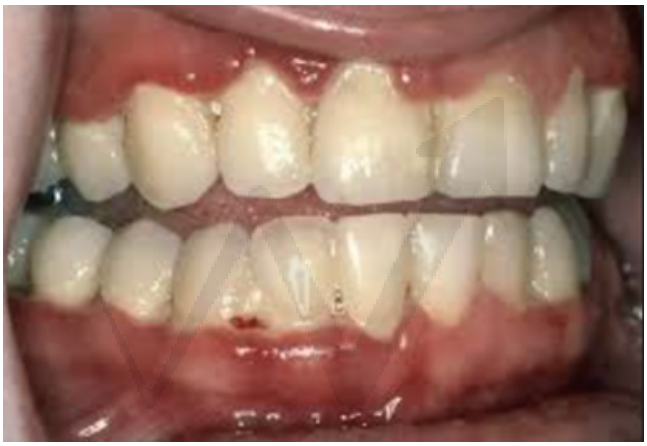
# RED SET: CLUSTER 2

(Diagnosis and Management)

# PATIENT WITH NECROTISING GINGIVITIS





Michael Sean, a 25-year-old law student, has come to your clinic today complaining that his gums are bleeding and painful, making it difficult to eat. He reports that these symptoms have been occurring intermittently over the past year and have worsened in the last two months. He saw his GP this morning, who prescribed penicillin, but he has not yet purchased it.

During your examination, you observe ulcers around the gum margins. John is otherwise healthy but had a viral infection 10 days ago. He smokes 10 cigarettes daily and consumes alcohol once a day. Given his situation and with an upcoming law exam, he is restless.

**Provide a diagnosis and management plan for his condition.**

# CASE:

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## Introductory paragraph:

Michael, appreciate your patience while I was examining despite the pain you are experiencing. I understand that this is a difficult time for you with your upcoming exams as well, and I want to assure you that I will help alleviate your pain. Have you eaten well?

## Exploring HOPC:

Have you experienced this pain before? Have you ever been diagnosed with gum disease or experienced bleeding gums in the past?Are you currently taking any medications for pain management?(If yes, what are those? And how often are you taking them?)

## Relevant history:

Michael, I'm leaning towards a diagnosis but want to understand a few more aspects to help explain to you.

1. **Medical history:**

   Did you visit the GP for your viral infection? Are you generally fit and healthy? When was your last blood test? Any allergies?

2. **Social history:**

   We appreciate your honesty with smoking. Since how long have you been smoking? Do you drink alcohol?

3. **Dental history:**

   When was your last dental visit? How would you describe your oral hygiene routine?

## Correlation of risk factors and explanation of diagnosis:

Normally, the mouth contains a balance of healthy bacteria and fungi. However, factors such as poor oral hygiene, smoking, stress, nutritional deficiencies, or weakened immunity can lead to an overgrowth of harmful bacteria (mainly Spirochetes) that cause a gum condition we call Necrotizing Gingivitis.
(Ensure the patient fully understands the diagnosis.)

With recent viral infection, smoking and stress experienced with upcoming exams can affect your body's immunity. Smoking in itself is a great contributor to gum disease. (If any more positive risk factors are present with respect to oral hygiene and dental visit, you can add those too).
It is characterised by bleeding gums and painful ulcers on swollen gums. Similarly we can appreciate that in the photo taken here, how your gums are looking angry.

## Management:

Michael, thorough debridement of this debris is necessary for successful management of necrotising gingivitis.

### Phase 1:

As for today, because you are in pain, I will apply some numbing gel and superficially remove the debris. Performing it under local anaesthetic would be best, but we will go step wise and see how you go with numbing.
And then I will irrigate with chlorhexidine 0.2% mouthwash in those gum areas.
As, targeting those bacterias is important. I will prescribe you antibiotic:
Metronidazole 400 mg orally, 12-hourly for 3 to 5 days.
(Michael, with this medication it has interactions with alcohol. Mention this if positive history of alcohol).
Additionally, as we know how smoking is impacting your gum condition, it would be best to stop smoking. What are your thoughts on this, Michael?
(You can extend support on quitting smoking in general now or later).

You will have some difficulty performing oral hygiene routines. Use a soft-bristled toothbrush or cotton balls to clean at home. If unable, I will suggest using chlorhexidine mouthwash chlorhexidine 0.2% mouthwash 10 mL rinsed in the mouth for 1 minute then spat out, 8- to 12-hourly until pain has reduced.

I will also prescribe you painkillers:(depending on what analgesics patient is already taking and after understanding allergies, prescribe accordingly).
Tab Ibuprofen 400 mg 8 hourly
Tab Panadol 1000 mg 6 hourly
Michael, are you able to follow so far? I understand it's a lot to follow, I will give you everything in written as well.

### Phase 2:

And I will review you in 48 hours, to understand how you are coming along.
In this review appointment, our focus will be to do a thorough debridement, as your condition will not settle unless appropriate debridement is done.
After that, I will perform a thorough gum examination.
And I walk you through effective oral hygiene measures.
(Modifying risk factors to prevent further progression and recurrence
Discussing the significance of smoking cessation, offer assistance and guidance if the patient is ready to quit)

Moreover, Michael I will provide you referral to a general practitioner for blood tests to understand nutritional deficiencies and any other underlying conditions
With upcoming exams, I also want to extend my support for managing stress.
Are you okay so far, Michael?

**Phase 3:**

In 2 weeks, I will review you again, if the infection has not responded to appropriate management like complete debridement, antibiotic therapy, improved oral hygiene and quitting smoking, I will have to refer you for gum specialist management. We call them periodontists.
It's advisable to see a periodontist, as your gum condition can spread to involve bone we call that as necrotising periodontitis.

**Important features of this case:**

- Necrotising gingivitis is a very painful condition, we have to understand their pain and manage appropriately.
- Explanation of diagnosis along with risk factors.
- Management of 3 phases to explain.
- Modifying risk factors and health promotion appropriately will get his condition under control.
- Referrals to GP, periodontist and stress management.

**Important links to read to understand this case better:**

Reference in detail would be in the therapeutic guidelines.
Thorough reading and understanding video on Winspert app.

**Necrotizing gingivitis and it's differential diagnosis:**

https://www.ncbi.nlm.nih.gov/books/NBK562243/

**Smoking it's effects and quitting approach:**

https://www.dhsv.org.au/__data/assets/pdf_file/0016/154132/140731-Smoking_FINAL.pdf

https://www.quit.org.au/it.org.au/

**Metronidazole and it's interactions:**

https://www.drugs.com/metronidazole.html

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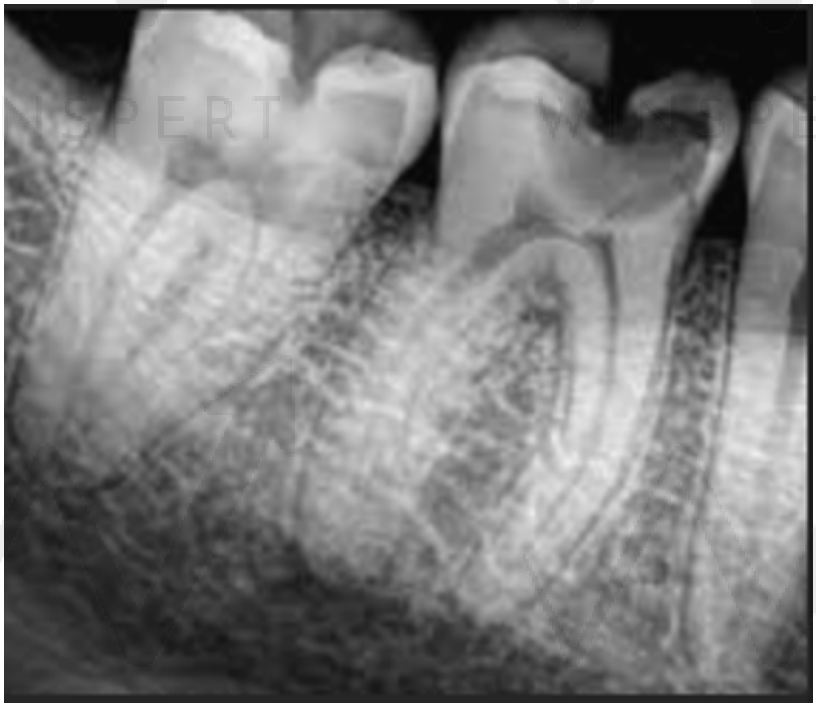
# RED SET: CLUSTER 3

(Clinical Treatment and Evaluation)

## INFORMED CONSENT FOR ENDODONTIC TREATMENT



Mr. John, a 29 year old regular patient at your clinic. He was diagnosed with irreversible pulpitis in tooth during his last visit. He has returned, still in pain, and prefers not to have tooth extracted.
His medical history is clear and is fit and healthy.

**Explain the procedure of root canal treatment and obtain his informed consent.**

# CASE:

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## Introductory paragraph:

John it's good to see you again, and I'm happy to know you have made the decision to save this tooth.
John, you are still in pain, so we will take apt steps as soon as possible now.
I want to understand if you are having any swelling on your face or fever?
Did you happen to take any medications for your pain?
(If yes, name of the medication, its regimen and if it was working).

## Explanation on Root canal treatment procedure:

(Before inquiring about the patient's prior experience with root canal treatment (RCT), ascertain if they would like to be informed about the procedure's details.)
John, I will brief you first about what are the advantages and disadvantages.

### Advantages:

- You get to save your tooth.
- There is a chewing efficiency because of natural teeth.
- Stop pain and prevent further infection.

### Disadvantages:

- Procedure takes 2-3 visits to complete.
- Flare ups with pain in between appointments.
- Additional procedure to follow for crown preparation.
- It is expensive along with additional costs of crown.

Before we begin the root canal treatment (RCT), I would like to assure you that it is an excellent option for preserving your natural tooth. However, before we commence the procedure, I believe it is essential to discuss the potential drawbacks of RCT so that you can provide informed consent for the treatment.
This treatment can also be performed by a specialist (endodontist) or by me from the very beginning. Specialists have add on fees because of their experience and also have waiting times.
If it is a case, where I feel it's best to be completed by a specialist, I would provide you with a referral. However, if any complications arise it may necessitate a referral to a specialist, which will incur additional costs.
Any questions so far, John?

## Explanation on Root canal treatment procedure:

### Procedure Overview:

Depending on the patient's response to treatment and pain levels, multiple appointments may be necessary.
Let me explain you with the each visit:

**First appointment:**
Each appointment will begin with numbing you locally to ensure your comfort. And we do use a rubber dam for each stage, it is like a protection for yourself from the very small instruments we use and also prevents exposure to chemicals used for cleaning teeth. That is made from latex usually, so any update to allergies?
(Explain with the help of an x-ray).
After the initial steps, we remove the decay to enter the inside of the tooth and remove inflamed nerves. We use files (which are those small instruments) to clean. Chemicals are then flushed to clean those areas. Medication is placed within it until we see you in 7 days.

**Second appointment:**
In this appointment we focus on mechanical shaping of the canals with those special instruments to accommodate filling. We again place medicine inside the tooth after shaping and using chemicals to clean.

**Third appointment:**
John, once you will be pain-free, the canals can be filled, and a temporary filling or a permanent filling can be placed on the top in the crown area (show it on the x-ray).

After a two-week observation period, a review appointment will be there to judge how you are going with the healing from the pain. Accordingly we can schedule an appointment for a permanent crown restoration.
John, are you aware if you grind your teeth? As you could be at a higher risk of fracturing your RCT tooth in the future until you receive a crown on it.
If yes, we can also consider mouthguards after crown to prevent effects of grinding on teeth. And to manage the actual cause of grinding, there could be several reasons. (You can go into the details of it, if the time permits).
In between appointments, you could experience some pain because of flare-ups. I will prescribe you pain medication for that.
So, John, any allergies or changes in your medical history that I should be aware of?
Ibuprofen 400 mg every 6-8 hours for 3 days.
Paracetamol 1000 mg 4-6 hourly for 3 days.

## Risk of complications

Like every procedure there are few risks and complications even with root canal treatment.

Let me walk you through **most common risks** and complications for your tooth:

- mild temporary pain due to inflammation of the tissues surrounding the tooth
- tooth fracture: due to reduced strength and durability of the tooth: –a tooth extraction may be required –this risk is reduced when a crown is used.

**Uncommon risks and complications** include:

- the fine metal files used to clean inside the root canals may break during use.
- Perforation: depending on the size and shape of the roots, there is some risk of creating a hole in the side of a tooth root during the cleaning process
- severe or persistent pain: return to your treating dental practitioner
- infection: return to your treating dental practitioner
- treatment failure: due to extra canals, blocked canals, curved canals, we could miss addressing them in the treatment. Then, tooth may require further treatment, which is usually performed by an endodontist.

What are your thoughts, John?

I do understand this is a lot of information. Take your time to understand and ask me any questions if needed.
Also, I will provide you with the Australian guidelines to understand the steps involved.

## Important features of this case:

- This is a case of informed consent, we have to make sure the patient understands the procedural steps of RCT, risks and complications involved there.
- Explaining how the dental crown is important post RCT for back molars.

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## Important links to read to understand this case better:

### Root canal procedure:

https://www.health.qld.gov.au/__data/assets/pdf_file/0035/363977/dental_10.pdf

https://www.mitec.com.au/products/ada-root-canal-rct-pamphlet

https://www.healthdirect.gov.au/root-canal-treatment

https://www.teeth.org.au/root-canal-treatment

### Informed consent on Local anaesthetic:

https://www.health.qld.gov.au/__data/assets/pdf_file/0031/148927/anaesthetic_07.pdf

### Crown after RCT:

https://www.perioimplantadvisory.com/restorative-dentistry/article/14289427/healing-after-root-canal-therapy-when-should-you-get-a-crown-placed

https://prospectroaddentalsurgery.com.au/blog/why-you-need-a-dental-crown-after-a-root-canal-a-complete-guide/

https://www.mitec.com.au/products/crowns-and-bridges

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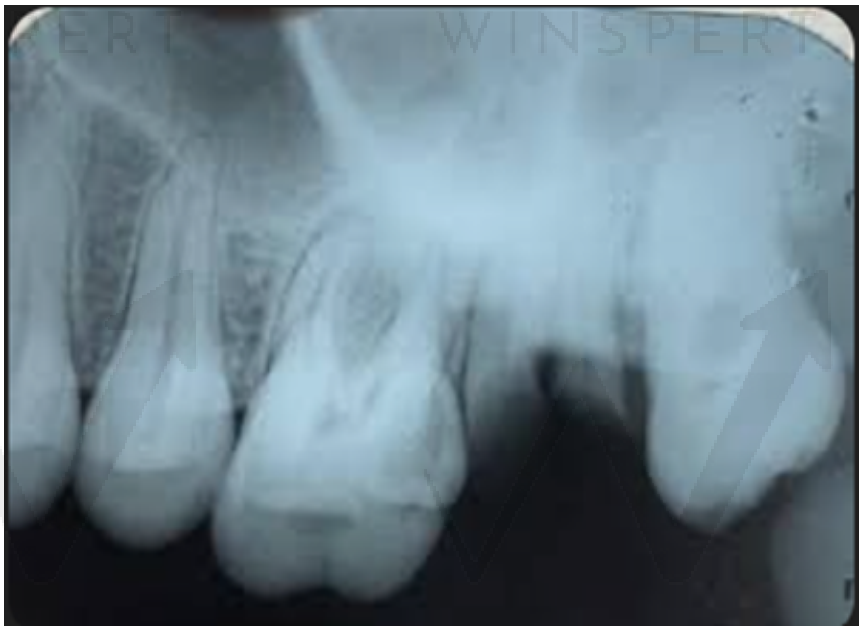
# RED SET: CLUSTER 3

(Clinical Treatment and Evaluation)

## APICAL 3RD OF THE ROOT BROKE IN THE MIDDLE OF EXTRACTION

## VERSION 1



Mr. Singh, a 43-year-old male new patient, visited your clinic on a friday afternoon. He resides two hours away by car. He reported experiencing pain and swelling on the upper right molar, which was severely decayed. Extraction was recommended, and he consented to the procedure.

During the extraction, the palatal root fractured, leaving an approximately 4 mm piece of the root inside. The radiograph indicated that the root fragment was in close proximity to the maxillary sinus.

**Inform the patient about the broken tooth and discuss the next steps for further management.**

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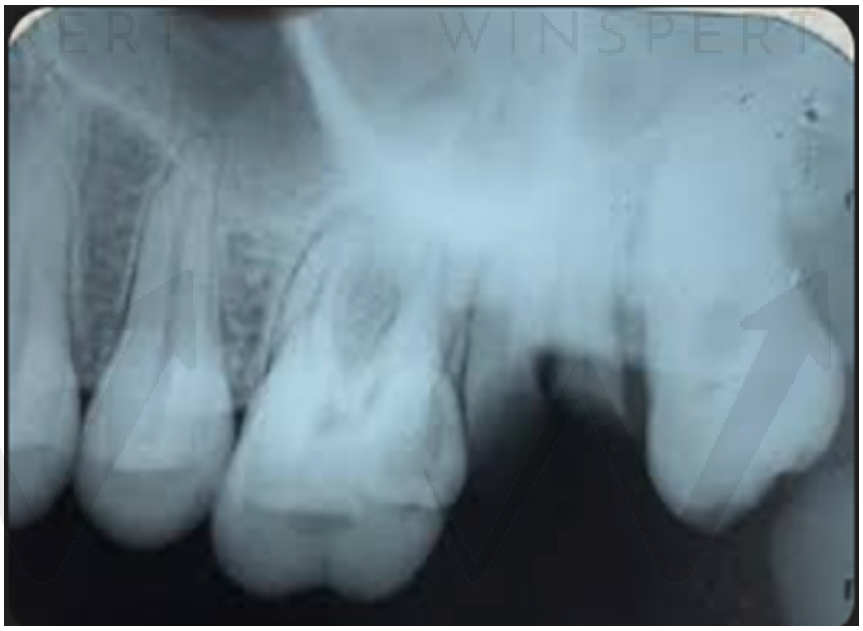
# RED SET: CLUSTER 3

(Clinical Treatment and Evaluation)

## APICAL 3RD OF THE ROOT BROKE IN THE MIDDLE OF EXTRACTION

## VERSION 2



Mr. Singh, a 43-year-old male new patient, visited your clinic on a friday afternoon. He resides two hours away by car. He reported experiencing pain and no facial swelling on the upper right molar, which was severely decayed. Extraction was recommended, and he consented to the procedure. He was given the option of an oral surgeon.

During the extraction, the palatal root fractured, leaving an approximately 4 mm piece of the root inside. Infected root is removed. The radiograph indicated that the root fragment was in close proximity to the maxillary sinus.

**Inform the patient about the broken tooth and discuss the next steps for further management.**

# CASE (version 1):

## Introductory paragraph:

Mr. Singh, I will get you to bite down on this gauze piece and sit you upright. How are you doing, Mr. Singh?
With the aim to take this infected and painful tooth out, the good news is most of the tooth is out. However, as it was already broken down, the small portion of the tooth is broken and still remaining.

Mr. Singh, I want you to be assured, it is still manageable, however I wanted to update you about the situation and provide you with the management options from here.

Are you feeling okay so far?

## Immediate Management:

Mr. Singh, I would take a new radiograph to assess the exact position of the retained portion. Moreover, as we had discussed about the proximity of maxillary sinus. Thus, an x-ray would give me an idea of it's position in relation to the maxillary sinus (point out to the current x-ray and explain).

Understanding the proximity to sinus is important because of potential risks involved such as oro-antral communication or slipping of the portion into the sinus. Mr. Singh, there are steps taken to prevent occurrence of such complications and if they arise, it is managed as well.

Are you okay so far, Mr. Singh?

## Management options:

Ideal situation would be giving you a referral to an oral surgeon. Given it's proximity to sinus, they have specialised tools and techniques to remove portion without disturbing the sinus. And if complications arise, they know how to manage it as well.
Advantages is you will be under specialist domain but, with specialist they have waiting times and additional specialist costs involved.

What are your thoughts, Mr. Singh?

Or I can do it as well, but the risk of developing complications are more and if that happens, depending on the intensity of complication, either I will manage or will have to refer you to an oral surgeon.
Intensity of complication meaning, if the OAC develops, and the size of opening is less than 5-6 mm. I can manage by giving extra set of precautions to follow as well as will be suturing the area.

Any questions for me, Mr. Singh?

However, in a situation where the opening is large, an oral surgeon will manage it with a surgical approach. (Depending on the x-ray and your judgement of the possibility of risk).

Discussion with the Patient: Before proceeding further, I would explain the situation clearly to Mr. Singh, detailing the fracture and the retained fragment. I'd also explain the proximity to the sinus and the potential risks, such as infection, sinusitis, or oroantral communication (an opening between the oral cavity and sinus).

I also understand Mr. Singh, you have travelled all the way. Are you accompanied by an adult today? I want to let you know about the government provisions for travel and accommodation assistance for specialist visits. What are your thoughts on those? I will give you those details in writing.

Mr. Singh, because it's a friday afternoon. I'm afraid that you might not get the appointment over this weekend with an oral surgeon. I will try my best to look into the first available appointment.

I will prescribe you antibiotics, to prevent the further spread of infection:
Mr. Singh, any allergies or interactions to medications in the past? Medically, any medical conditions you want to update me with?

(Accordingly prescribe)

Rx
Tab Amoxicillin 500mg 8 hourly for 5 days.
Tab Metronidazole 400mg 12 hourly for 5 days.

Mr. Singh, metronidazole medication has interactions with alcohol. Do you drink alcohol?

As pain killer, I will prescribe you:

Tab Ibuprofen 400 mg 8 hourly 3 days.
Tab Paracetamol 1000 mg 6 hourly for 3 days.

If you experience any worsening symptoms (e.g., severe pain, inability to open or close mouth, swelling affecting eye opening), I would urge you to immediately go to the hospital for medical attention accompanied by an adult or by calling an ambulance. I will give it to you in writing about the steps and symptoms of spreading infection.

**Continued Management:**

There are cases where we leave an untouched portion of tooth inside the socket if there are several risks involved, especially in wisdom teeth with no swelling. And over time, it does migrate on the gum level, for easier removal. You do have an option for that, but I would not recommend it for you because your tooth is infected and we cannot predict the boundaries of infection.

Regardless of whether you choose surgery or conservative management, I would provide detailed post-operative care instructions to promote healing and avoid complications. (Explain all the post-operative instructions after the tooth removal).

## Long-Term Care

Future Restorative Considerations: Once the fragment is addressed and healing is complete, I would discuss long-term restorative options, such as:

- Placement of a dental implant. (Might need sinus lift or bone graft).
- A bridge or partial denture if needed to replace the extracted tooth.

## Important features of the case:

- It is essential that a patient understands what to expect from treatment, both in terms of the procedure itself and any likely outcomes.
- Understanding the patient has travelled from far, and it's a Friday afternoon.
- Explaining all the options and their drawbacks as well as advantages - no treatment, treatment by you, treatment by a senior colleague, treatment by an oral surgeon
- Explaining the finances involved with each procedure.
- Long term care.

## Important links to read to understand this case better:

### Assessing the scope:

https://www.dentalboard.gov.au/Codes-Guidelines/Policies-Codes-Guidelines/Guidelines-Scope-of-practice.aspx

### Managing and approach towards difficult extractions:

https://www.dentalprotection.org/uk/articles/a-failed-extraction-handled-appropriately

https://aci.health.nsw.gov.au/networks/eci/clinical/clinical-tools/dental-emergencies

https://www.dentalprotection.org/australia/publications-resources/case-studies/case-studies-display--/tricky-extraction-leads-to-hospital-admission-aus