



Pretoria ENT

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## INFORMATION REGARDING YOUR NASAL SURGERY

This document contains information about the following aspects of nasal surgery:

- **Pre-op information:** How to prepare for surgery.
- **Procedure:** What is done during surgery.
- **Post-op information:** What to expect immediately after the surgery.
- **Possible complications:** Which complication might occur.
- **Alternative for surgery:** What you could do instead of surgery.

The following surgical procedures related to the ear are explained in this document:

- **Foreign body removal - nose.**
- **Septoplasty.**
- **Rhinoplasty - Closed.**
- **Rhinoplasty - Open.**
- **Functional endoscopic sinus surgery (FESS).**
- **Sphenopalatine artery ligation.**



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## Foreign body removal - nose

### Pre-op information:

- Please report to the hospital at 6:00 on the morning of the procedure.
- Do not eat or drink anything from 10:00 (12:00 for babies and toddlers) the night before the operation.
- It may take a while for the procedure to start, so bring along some entertainment for you or your child.

### Procedure:

Once under anaesthesia, the nasal cavities will be cleaned and examined endoscopically. The foreign object will be removed and the any remaining tissue injury recorded. After controlling any bleeding, there may be placed a dressing inside the nose. If so, the doctor will inform you regarding the removal.

### Post-op information:

- The doctor will talk to the patient or parents after the surgery. If there are any questions regarding the surgery or post-operative care, feel free to ask.
- You may have minimal pain or discomfort for 48 hours after the procedure, for which Panado will be sufficient. If pain is severe, or worsen over the next few days, please inform the practice urgently so that we can arrange to see you as soon as possible.
- Specks of blood may be seen with your nasal secretions for a few days, but if there is significant bleeding, please inform the practice urgently so that we can arrange to see you as soon as possible.
- The doctor will prescribe a nasal ointment that should be applied at the inside of the nasal openings twice daily for 2 weeks.
- A decongestant nasal spray will be prescribed for twice daily application over the next 5 days.
- Depending on the situation, the doctor may prescribe a course of antibiotics and/or a steroid nasal spray.
- If there is a lot of crusting/clots/injuries, the doctor may prescribe saline nasal washes.
- There will be a check-up 2 weeks after the operation.
- If an emergency arises after hours, please report to the Emergency Department.

### Possible complications:

- The tissue damage that a foreign body can cause mild to severe. Mostly only some inflammation or minimal local infection can be present, which resolves with local treatment. However, a foreign body that is large, has gone unnoticed for a long period, or has acidic properties, it can cause severe local infection that can spread to the sinuses, eyes or face.
- The pressure that the foreign body exerts onto the central nasal bone, can cause the cartilage to breakdown (perforate) and even collapse, causing a deformed nose. If a foreign body has eroded a blood vessel in the nose, excessive bleeding may occur.
- There may be some soft tissue injuries at the nasal opening if a foreign body was difficult to remove.
- Acute or chronic infection may occur.
- Bleeding may occur intra- or post-operatively.
- There is a small risk for injury of any of the sinonasal structures.
- There may be a persistent hole in the septum.



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- Severe cartilage breakdown can cause a collapse of the nose-bridge.
- Please consult the anaesthetist regarding the anaesthetic risks.
- Death could be the result of any surgery or anaesthesia.

**Alternatives to surgery:**

- No safe alternative.



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## Septoplasty

### Pre-op information:

- Please report to the hospital at 6:00 on the morning of the procedure.
- Do not eat or drink anything from 10:00 (12:00 for babies and toddlers) the night before the operation.
- It may take a while for the procedure to start, so bring along some entertainment for you or your child.

### Procedure:

The aim of a Septoplasty is to adjust the shape and position of the central bone inside the nose (septum), which divides the two nasal cavities. This improves the linear airflow through the nose. It may also be done to improve sinonasal drainage, reduction of a previous nasal fracture or to create space for other intranasal procedures. The septum consists of bone and cartilage (soft bone).

Once under anaesthesia, the internal and external parts of the nose are examined. On internal endoscopic examination, the position and shape of the nasal septum is determined, as well as its relationship to the other structures. Inside the nose the doctor makes a small incision through the soft tissue lining of the septum on the one side. Through this incision, the soft tissue lining on both sides of the septum are lifted. The areas that need to be addressed are either removed (if small) or removed, molded and replaced (if larger). The soft tissue linings are replaced in their original position and the incision closed with sutures. Sutures are also placed through the septum to ensure it adheres tightly to the bone and cartilage.

### Post-op information:

- The doctor will talk to the patient or parents after the surgery. If there are any questions regarding the surgery or post-operative care, feel free to ask.
- The doctor will prescribe analgesia for the pain and discomfort that you may experience after the operation.
- Sometimes the doctor may decide to prescribe a course of oral antibiotics after the operation.
- A nasal ointment will be prescribed, and should be applied to the inside of the nasal openings twice daily.
- There will be either a soft material or silicone splint inside the nose, which may cause a feeling of nasal obstruction. This is removed 2 weeks after the surgery during a check-up.
- Specks of blood may be seen in your nasal secretions, but if any significant bleeding occurs, please contact the practice urgently, so that we can arrange that you be seen as soon as possible.
- If you experience that your pain is getting progressively worse after the surgery, or you develop a fever, please contact the practice so that we can arrange that you be seen as soon as possible.
- Do not blow your nose for the 2 weeks after the surgery.
- Your check-up will then be after those 2 weeks.
- After the nose has been cleared and cleaned by the doctor, you must start with saline nasal washes twice daily for a month.

### Possible complications:

- Bleeding may occur during or after the procedure.
- A blood collection (hematoma) may form between the septum and its soft tissue lining. Such a



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- collection has to be drained urgently as it can cause destruction of the cartilage. This complication can cause a hole (perforation) in the septum and/or a collapsed nasal bridge.
- The septum can become secondarily infected and form an abscess, which can cause destruction of the cartilaginous part of the septum. This complication can also cause a hole (perforation) in the septum and/or a collapsed nasal bridge. Infection can spread to areas that are closely related to the brain and can be life-threatening.
  - Infection of the surgical area can spread to the face, sinuses or brain.
  - The septum is directly linked to the skull base (bony encasing of the brain and cerebrospinal fluid). This particular part of the skull base is very thin, and manipulation of the septum can cause a leak of the cerebrospinal fluid. If this should happen, it is usually repaired immediately, but may have to be revised with a second operation.
  - The orbit lies in close relation to the nasal cavity and it can be injured by working on the nasal cavity.
  - The septum may move back to the place where it was before the surgery.
  - Sometimes a patient feels that the procedure has not improved his/her nasal breathing.
  - Sometimes a patient feels that their nasal congestion is worse after the surgery.
  - Please consult the anaesthetist regarding the anaesthetic risks.
  - Death could be the result of any surgery or anaesthesia.

### Alternatives to surgery:

- Accept nasal blockage if still present after optimum treatment with local and systemic medication for any underlying soft tissue disease (chronic rhinitis or rhinosinusitis).
- If epistaxis results from a septal spur, the continuous use of a nasal lubricant and saline nasal spray may help to decrease the frequency and severity of bleeds. Nasal packing can be performed during acute bleeds.
- If a recurrent sinusitis develops due to obstruction of the sinonasal drainage pathway by a deviated septum, the acute episodes can be treated with courses of antibiotics, steroids and decongestants. The chronic use of an intranasal steroid and nasal washes is part of the preventative care.
- CPAP (continuous positive airway pressure) can still be effective for OSAS (obstructive sleep apnoea syndrome) at higher pressure settings.



## Rhinoplasty - Closed

### Pre-op information:

- Please report to the hospital at 6:00 on the morning of the procedure.
- Do not eat or drink anything from 10:00 (12:00 for babies and toddlers) the night before the operation.
- It may take a while for the procedure to start, so bring along some entertainment for you or your child.

### Procedure:

A rhinoplasty is a procedure that aims to improve the external appearance of the nasal bridge-area, which may be asymmetrical or indented after a traumatic injury of the nose. A closed rhinoplasty is performed by manipulating the shape and position of the bony structures (nasal bones) and the underlying part of the septum, without making any incisions. Such a procedure can only be performed early (within 2 weeks of the injury), before the fracture lines have completely healed.

The nose is examined under anaesthesia and the appearance recorded. The nasal bones are lifted back into position (along with the underlying septum) and shaped to be symmetrical. After the procedure, the bleeding is controlled if there is any and the upper part of the nasal cavities packed. A nasal splint is placed over the nose bridge to support the underlying fractured bones while healing.

### Post-op information:

- The doctor will talk to the patient or parents after the surgery. If there are any questions regarding the surgery or post-operative care, feel free to ask.
- The doctor will prescribe analgesia for the pain and discomfort you may experience after the surgery.
- Sometimes the doctor may prescribe a course of oral antibiotics after the procedure.
- A nasal ointment will be prescribed, and should be applied to the inside of the nasal openings twice daily.
- Your nose may feel very blocked after the procedure. A decongestant will be prescribed, which can be used twice daily for 5 days.
- There will be a splint over the bridge of your nose, to help protect the newly fractured bones. It will be removed after 2 weeks during a check-up.
- Specks of blood may be seen in your nasal secretions, but if any significant bleeding occurs, please contact the practice urgently, so that we can arrange that you be seen as soon as possible.
- If you experience that your pain is getting progressively worse after the surgery, or you develop a fever, please contact the practice so that we can arrange that you be seen as soon as possible.
- Do not blow your nose for the 2 weeks after the surgery.
- Your check-up will be after 2 weeks.
- If an emergency arises after hours, please report to the Emergency Department.

### Possible complications:

- Bleeding may occur during or after the procedure.
- There is likely to be a lot of swelling and discoloration of the nose and tissues around the eyes. The swelling around the tear duct area may cause tearing.
- A hematoma (blood collection) may form within the nasal septum, due to the manipulation. Such



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- a collection has to be drained as soon as possible as it may cause destruction of the nasal septum.
- The surgical area and septum can become secondarily infected and form an abscess. An abscess has to be drained as soon as possible as it may cause destruction of the nasal septum. Infection can spread to areas that are closely related to the brain and can be life-threatening.
- Bridge widening, narrowing or collapse may occur.
- The orbit lies in close relation to the nasal cavity and can be injured during surgery.
- The septum is directly linked to the skull base (bony encasing of the brain and cerebrospinal fluid). This particular part of the skull base is very thin, and manipulation of the septum can cause a leak of the cerebrospinal fluid. If this should happen, it is usually repaired immediately, but may have to be revised with a second operation.
- Most often, the surgery improves the appearance of the nose, but does not make it perfect. Some patients may be unhappy with the outcome. It is very important that both the doctor and the patient have realistic expectations.
- Please consult the anaesthetist regarding the anaesthetic risks.
- Death could be the result of any surgery or anaesthesia.

### Alternatives to surgery:

- The nose will remain skew or indented (position after the trauma). If you would want to correct it later, an open procedure would have to be done.
- A skew nasal septum may result in chronic nasal obstruction. If you would want to correct it later, it would have to be done with an intranasal incision, but because it is often a failure to correct a deviated septum without correcting the deviated nose, an open procedure would have to be done.



## Rhinoplasty - Open

### Pre-op information:

- Please report to the hospital at 6:00 on the morning of the procedure.
- Do not eat or drink anything from 10:00 (12:00 for babies and toddlers) the night before the operation.
- It may take a while for the procedure to start, so bring along some entertainment for you or your child.

### Procedure:

A rhinoplasty is a procedure that aims to improve the external appearance of the nose (which may be asymmetrical, indented, widened or narrowed). If the septum (central nasal bone) is also deviated, it is repaired. After carefully examining and recording the external and internal appearance of the nose, an incision is made in the skin that lines the inside of the nasal opening on both sides. A zig-zag incision is made across the middle part of the nose (medial crurae) to join the two incisions. The soft tissue of the nose is lifted off the bone and cartilage of the nose. The nasal bones are usually fractured and reshaped. If the septum is abnormal, a septoplasty is done by using the same entry. The cartilaginous structures can be reshaped or trimmed. Once all the work is done, the soft tissue is replaced over the nose and the incisions closed with fine sutures. A nasal splint is applied and the nasal cavity is packed with material to support the newly fractured areas.

### Post-op information:

- The doctor will talk to the patient or parents after the surgery. If there are any questions regarding the surgery or post-operative care, feel free to ask.
- The doctor will prescribe analgesia for the pain and discomfort you may experience after the surgery.
- Sometimes the doctor may prescribe a course of oral antibiotics after the procedure.
- A nasal ointment will be prescribed, and should be applied to the inside of the nasal openings twice daily.
- Your nose may feel very blocked after the procedure. A decongestant will be prescribed, which can be used twice daily for 5 days.
- There will be a splint over the bridge of your nose, to help protect the newly fractured bones. It will be removed after 2 weeks during a check-up.
- Specks of blood may be seen in your nasal secretions, but if any significant bleeding occurs, please contact the practice urgently, so that we can arrange that you be seen as soon as possible.
- If you experience that your pain is getting progressively worse after the surgery, or you develop a fever, please contact the practice so that we can arrange that you be seen as soon as possible.
- Do not blow your nose for the 2 weeks after the surgery.
- Your check-up will be after those 2 weeks.
- If an emergency arises after hours, please report to the Emergency Department.

### Possible complications:

- Bleeding may occur during or after the procedure.
- There is likely to be a lot of swelling and discoloration of the nose and tissues around the eyes. The swelling around the tear duct area may cause tearing.
- A hematoma (blood collection) may form within the nasal septum, due to the manipulation. Such



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- a collection has to be drained as soon as possible as it may cause destruction of the nasal septum.
- The surgical area and septum can become secondarily infected and form an abscess. An abscess has to be drained as soon as possible as it may cause destruction of the nasal septum. Infection can spread to areas that are closely related to the brain and can be life-threatening.
- Bridge widening, narrowing or collapse may occur.
- The orbit lies in close relation to the nasal cavity and can be injured.
- The septum is directly linked to the skull base (bony encasing of the brain and cerebrospinal fluid). This particular part of the skull base is very thin, and manipulation of the septum can cause a leak of the cerebrospinal fluid. If this should happen, it is usually repaired immediately, but may have to be revised with a second operation.
- Most often, the surgery improves the appearance of the nose, but does not make it perfect. Some patients are unhappy with the outcome. It is very important that both the doctor and the patient has a realistic expectation of the result.
- Unless a person is known for forming thick scars or keloid, there is no way of predicting whether or not you will form excessive scar tissue at the incision site.
- Please consult the anaesthetist regarding the anaesthetic risks.
- Death could be the result of any surgery or anaesthesia.

### Alternatives to surgery:

- There are no alternatives for correcting abnormalities of the external nose.
- If surgery to correct a nasal septum would be performed without addressing the abnormalities of the external nose, it is likely to be a failure.



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## Functional endoscopic sinus surgery (FESS)

### Pre-op information:

- Please report to the hospital at 6:00 on the morning of the procedure.
- Do not eat or drink anything from 10:00 (12:00 for babies and toddlers) the night before the operation.
- It may take a while for the procedure to start, so bring along some entertainment for you or your child.

### Procedure:

The aim of functional endoscopic sinus surgery is to improve nasal function in terms of airflow and sinus drainage. It also creates space for nasally applied medication to reach the relevant areas.

Under general anaesthesia the internal nasal cavities are examined endoscopically and the findings recorded. If a septoplasty forms part of the procedure it is usually done at this point, as a deviated septum may impair the access needed to operate on the areas of sinus drainage. Inside the nose the doctor makes a small incision through the soft tissue lining of the septum on the one side. Through this incision, the soft tissue lining on both sides of the septum are lifted. The areas that need to be addressed are either just removed (if small) or removed, molded and replaced (if larger). The soft tissue linings are replaced in their original position and the incision closed with sutures. Sutures are also placed through the septum to ensure it adheres tightly to the bone and cartilage.

The sinus work starts by removing a small wing-like structure called the uncinata, which overlies the main drainage pathway of the sinuses. The drainage openings of some of the sinuses are enlarged, while other smaller sinuses are opened up. The sinuses are rinsed, the bleeding is controlled and the nasal cavities packed with material that promote healing and prevents bleeding.

### Post-op information:

- The doctor will talk to the patient or parents after the surgery. If there are any questions regarding the surgery or post-operative care, feel free to ask.
- The doctor will prescribe analgesia for the pain and discomfort you may experience after the surgery.
- Sometimes the doctor may prescribe a course of oral antibiotics after the procedure.
- A nasal ointment will be prescribed, and should be applied to the inside of the nasal openings twice daily.
- Your nose may feel very blocked after the procedure. There is a soft material placed in your nose in specific areas that may contribute to this sensation. A decongestant will be prescribed, which can be used twice daily for 5 days. The material in the nose will be removed after 2 weeks.
- Specks of blood may be seen in your nasal secretions, but if any significant bleeding occurs, please contact the practice urgently, so that we can arrange that you be seen as soon as possible.
- If you experience that your pain is getting progressively worse after the surgery, or you develop a fever, please contact the practice so that we can arrange that you be seen as soon as possible.
- Do not blow your nose for the 2 weeks after the surgery.
- Your check-up will be after those 2 weeks.
- Once the nose was cleared and cleaned, you will be instructed to use saline nasal washes twice daily for a month.



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- Please continue using your steroid nasal spray.
- If an emergency arises after hours, please report to the Emergency Department.

### Possible complications:

- Bleeding may occur during or after the procedure.
- Certain vessels can retract into the orbit (bony encasement of the eye), causing bleeding into the orbit. If the blood collection continues to enlarge, the pressure on the eye structures can become dangerous. To reduce it, one of the ligaments of the eye has to be released. This can be repaired afterwards if necessary.
- The orbit (bony encasement of the eye and surrounding tissues) and its content lie very close to the operation field. Therefore, there is a risk of injury to the eye muscles and the optic nerve.
- The tear duct runs very close to some of sinuses and may be injured during the procedure.
- The anterior skull base (bony encasement of the brain and cerebrospinal fluid) is directly above the surgical area. There is a risk of causing injury to the bony layer separating the sinonasal area from the brain, cerebrospinal fluid and lining of the brain (meninges). Such an injury can cause damage to any of these structures, but it most commonly results in a leakage of cerebrospinal fluid. Repair of the area is usually done during the same procedure, but may have to be revised at a later stage.
- Sinonasal Infection can occur post-operatively.
- Chronic/recurrent sinonasal infection may recur, especially if the patient does not use his/her intranasal therapy diligently after the surgery.
- A hematoma (blood collection) may form within the nasal septum, due to the manipulation. Such a collection has to be drained as soon as possible as it may cause destruction of the nasal septum.
- The surgical area and septum can become secondarily infected and form an abscess. An abscess has to be drained as soon as possible as it may cause destruction of the nasal septum. Infection can spread to areas that are closely related to the brain and can be life-threatening.
- Sometimes a patient may feel there is no improvement in their symptoms, or even worsening of their symptoms.
- It is possible that too much soft tissue is removed from the nose (more so in the past due to over-aggressive surgery), causing a condition called atrophic rhinitis (condition associated with dried foul smelling secretions, decreased sense of smell and decreased sense of airflow, causing a constant feeling of nasal obstruction).
- Please consult the anaesthetist regarding the anaesthetic risks.
- Death could be the result of any surgery or anaesthesia.

### Alternatives for surgery:

- You may need courses of antibiotics and steroids for acute or chronic episodes. Chronic treatment includes the use of intranasal steroids and nasal washes. The use of intranasal steroids is essential, whether surgery is done or not.
- In the case of chronic rhinosinusitis with nasal polyps, regular courses of oral steroids may be necessary to decrease the size of the polyps. The use of nasal sprays can be ineffective if the polyps are very big, as it cannot reach all the soft tissue that needs treatment. However, keep in mind that using a nasal steroid spray will be part of the chronic treatment for nasal polyps, whether surgery has been performed or not.



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- There is no safe alternative for chronic allergic fungal rhinosinusitis. The accumulation of debris in the sinuses increases over time and can cause pressure on the eye and skull base (bony covering of the brain), and eventually spread to these areas. Spread can cause permanent eye and brain damage.
- There is no safe alternative for invasive fungal disease. This is a life-threatening condition where, despite the use of systemic antifungal treatment, removal of all affected tissue is urgent in order to contain the disease and prevent further spread. Surgery does not guarantee that the infection will not spread.



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## Sphenopalatine artery ligation

### Pre-op information:

- Please report to the hospital at 6:00 on the morning of the procedure.
- Do not eat or drink anything from 10:00 (12:00 for babies and toddlers) the night before the operation.
- It may take a while for the procedure to start, so bring along some entertainment for you or your child.

### Procedure:

The sphenopalatine artery is one of the main vessels responsible for blood supply to the nasal cavity. If nasal bleeding cannot be controlled with simple measures like cauterizing (burning) or packing the nose with hemostatic materials, the sphenopalatine artery has to be identified and cauterized (burned) or ligated (bound off).

Once under general anaesthesia, the nasal cavities are examined endoscopically and the area of the bleeding identified. If the bleeding still cannot be controlled, the sphenopalatine artery must be cauterized or ligated. With endoscopic instruments, the soft tissue overlying the artery is lifted off the bone, until the artery is clearly visualized. The artery is then cauterized or ligated. The soft tissue is replaced to its original position and a hemostatic material (controls bleeding) is placed over it. Sometimes the bleeding is still not controlled and then a search for the source of the bleeding is necessary. Other main vessels that supply the nasal cavity (ethmoidal arteries) may also need to be cauterized or ligated. If the bleeding still cannot be controlled, angiographic embolization will be necessary. In extreme cases the larger vessels, from which the intranasal vessels branches, may have to be tied off.

### Post-op information:

- The doctor will talk to the patient or parents after the surgery. If there are any questions regarding the surgery or post-operative care, feel free to ask.
- The doctor will prescribe analgesia for the pain and discomfort you may experience after the surgery.
- Sometimes the doctor may prescribe a course of oral antibiotics after the procedure.
- A nasal ointment will be prescribed, and should be applied to the inside of the nasal openings twice daily.
- Your nose may feel very blocked after the procedure. There is a soft material placed in your nose in specific areas that may contribute to this sensation. A decongestant will be prescribed, which can be used twice daily for 5 days. The material in the nose will be removed after 2 weeks.
- Specks of blood may be seen in your nasal secretions, but if any significant bleeding occurs, please contact the practice urgently, so that we can arrange that you be seen as soon as possible.
- If you experience that your pain is getting progressively worse after the surgery, or you develop a fever, please contact the practice so that we can arrange that you be seen as soon as possible.
- Do not blow your nose for the 2 weeks after the surgery.
- Your check-up will be 2 weeks after the surgery.
- Once the nose was cleared and cleaned, you will be instructed to use saline nasal washes twice daily for a month.
- If an emergency arises after hours, please report to the Emergency Department.



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### Possible complications:

- Bleeding may also recur after the operation. If bleeding is uncontrollable, despite every possible measure taken and blood transfusions given, the blood loss may lead to shock and even death.
- Due to the close anatomical relationship between the sphenopalatine artery and the sphenopalatine nerve (sensory of the nasal cavity and part of the palate), the nerve may be injured, resulting in numbness of the palate.
- The area that is operated lies very close to the structures of the eye and bony encasement of the brain, which can be damaged during surgery.
- Please consult the anaesthetist regarding the anaesthetic risks.
- Death could be the result of any surgery or anaesthesia.

### Alternatives to surgery:

- Nasal packing may have to be performed regularly.
- Severe bleeds may require admission and possibly blood transfusion.
- Embolising the feeding vessels is a possibility, but it has its own risks (loss of vision, stroke). It does not guarantee that there will be no further bleeds, as more than one vessel can be responsible.
- Your doctor may have to change your medication if you are on any blood-thinning or anti-inflammatory treatment to prevent bleeds, which can result in sub-optimal treatment.