

TEMPOROMANDIBULAR JOINT DISORDERS

A PATIENT'S GUIDE

General overview

Temporomandibular (or jaw joint) disorders are a common problem and occur in up to one third (1 in 3) of the population. The majority of people who have these disorders do not require management in hospital and cope with their symptoms such as clicking, occasional pain or mild restriction of opening. Of the proportion that are referred for hospital consultation the majority can be managed very simply and do not require open joint surgery.

Most people with these disorders do not progress on to develop anything serious or worrying, such as arthritis.

Cause

The “normal” jaw joint consists of the lower jaw, a cartilage disc in between and the base of the skull. The first couple of centimetres of opening occurs by rotation of the lower jaw against the cartilage disc and the subsequent mouth opening is by sliding of the lower jaw and disc along the base of the skull.

The jaw clicks in about one third of the population because the position of the disc is slightly anterior (*forward*) to that which is considered “normal” although this position can be considered to be a normal variant. The first portion of opening occurs between the lower jaw and the tissues which lie behind the disc (the retro-discal tissues). These normally adapt to the extra force put upon them by movements of the jaw. The initial rotation occurs in the usual manner and then, on sliding the disc clicks back into its more “normal” relationship with the lower jaw to complete the opening path. This is what causes the click within your jaw joint.

Occasionally, due to injury or other problems, inflammation may develop within the retro-discal tissues and this causes pain around the joint, similar to that which you would sustain if you were to sprain a joint. When a joint is sprained you get pain in and around the joint but you also get pain in the muscles around the joint. The reason for this is that the body's reaction to an injury is to try and protect the joint and the muscles around the joint contract to form a type of splint to hold the joint steady. Continued long term contraction of the muscles cuts off the blood supply and the products of muscle contraction build up in the area. These products cause pain and they cannot be removed as the blood supply is reduced. This is called muscle spasm. The muscle spasm in addition causes an increase force on the joint which sets up more joint inflammation and hence a vicious cycle of joint inflammation and muscle spasms.

Restriction of opening may be caused by muscle spasm, a change in lubrication within the joint due to inflammatory changes or the physical position of the disc blocking further opening and not reducing with a click.

The aims of treatment are addressed towards reducing joint inflammation and reducing muscle spasm.

Simple Treatment

The best way of managing a sprain of the joint is to rest it. It is obviously difficult to rest your jaw, as you have to talk and eat. There are, however, some simple measures, which will help to rest the joint as much as possible.

Softer diet

Try to take a softer diet, avoid steaks and instead have minced meat, try fish and mashed potatoes. You should avoid sticky toffees and chewing gum as these increase the amount of chewing. Crusty bread is often difficult.

Avoid Wide Mouth Opening

Try to avoid opening your mouth wide. Cut apples up into small pieces, avoid Big Mac's etc and if you are about to yawn try to stifle this.

Topical non-steroidal anti-inflammatories (NSAID)

To address the inflammation in the joint I find that topically applied gels containing NSAIDs work very well to reduce the inflammation and reduce the pain in and around the joint. These have less systemic effects than taking tablets, such as Ibuprofen, and work just as well.

The gel should be applied over the area of the joint regularly four times a day and should continue for four weeks. Examples include ibuprofen, diclofenac and piroxicam gels.

The above two measures alone are usually helpful to reduce or even abolish pain in the majority of patients.

Soft bite raising appliance

We often use a lower soft bite-raising appliance (splint), which you should wear at nights only. This is a clear splint (like a gum shield), which is soft and fits over your bottom teeth. You need an impression, which may be taken on the day of your attendance or by your dentist. A model is made of your lower teeth and the splint is made over these.

Initially some people find it difficult to keep this in their mouth and they find that they have discarded it by the morning. It is important to persist with the splint and it can take up to six weeks to start having some effect.

The splint works in three ways:

1. Because it is soft it spreads the load and reduces the force that is being transmitted to the joint.
2. Because it increases the gap between the teeth it allows the muscles to stretch and therefore helps to reduce muscle spasm and it also helps to reduce clenching of teeth overnight.
3. By a mechanism of the lever and fulcrum principal the force exerted by biting the teeth together is now acting further towards the back of the mouth and therefore the load, which is passing through the joint, is reduced.

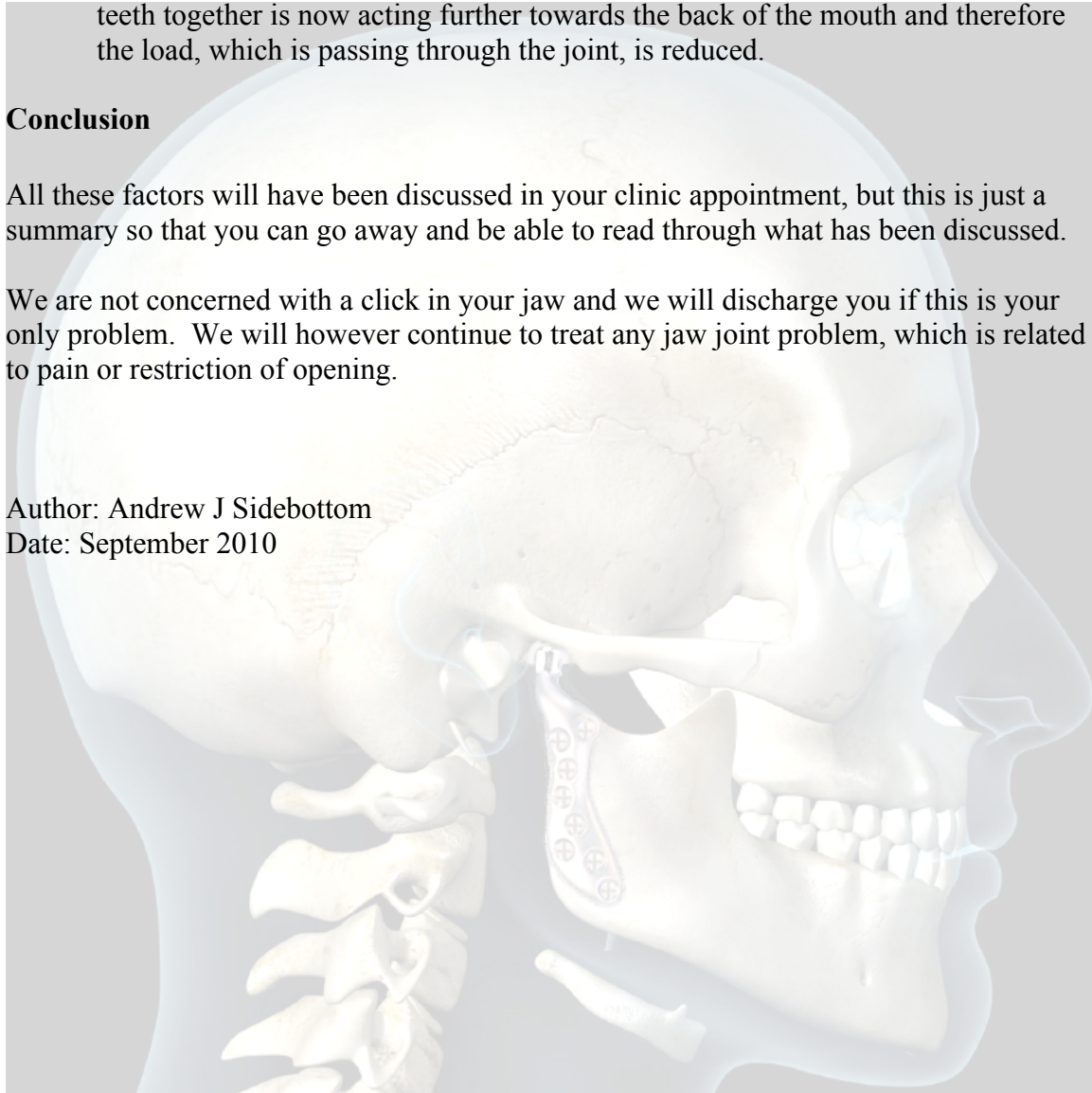
Conclusion

All these factors will have been discussed in your clinic appointment, but this is just a summary so that you can go away and be able to read through what has been discussed.

We are not concerned with a click in your jaw and we will discharge you if this is your only problem. We will however continue to treat any jaw joint problem, which is related to pain or restriction of opening.

Author: Andrew J Sidebottom

Date: September 2010



Temporomandibular Joint Arthroscopy

This procedure is a simple investigation of the jaw joint. It takes about 20 minutes and can be performed as a day case procedure (you can go home the day of the surgery) unless there is a medical or social reason to remain in hospital.

It involves a small stab incision in front of the ear, which often does not require a suture. Your mouth opening will be measured whilst you are asleep to determine how much of the restriction of opening is due to muscle spasm. The joint will be moved and stretched to determine whether there are any functional problems. The inside of the joint will be examined with a small scope to see whether there is any inflammation, scar tissue or damage to the joint or disc surfaces. The joint is then washed out under pressure to clear any products of inflammation and to permit more normal movement of the joint.

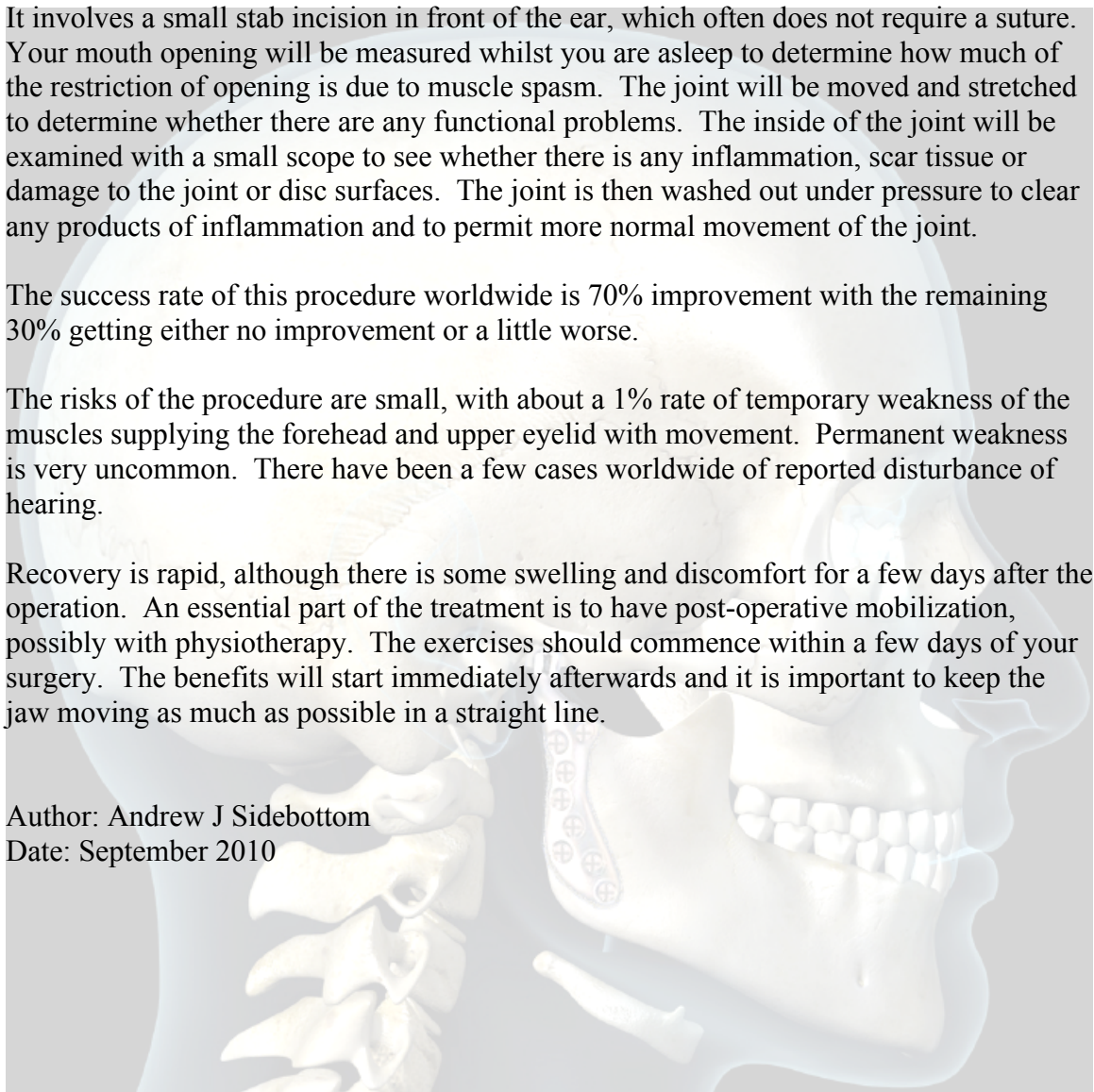
The success rate of this procedure worldwide is 70% improvement with the remaining 30% getting either no improvement or a little worse.

The risks of the procedure are small, with about a 1% rate of temporary weakness of the muscles supplying the forehead and upper eyelid with movement. Permanent weakness is very uncommon. There have been a few cases worldwide of reported disturbance of hearing.

Recovery is rapid, although there is some swelling and discomfort for a few days after the operation. An essential part of the treatment is to have post-operative mobilization, possibly with physiotherapy. The exercises should commence within a few days of your surgery. The benefits will start immediately afterwards and it is important to keep the jaw moving as much as possible in a straight line.

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Temporomandibular Joint Arthroscopy Post Operative Instructions

Recovery is rapid, although there is some swelling and discomfort for a few days after the operation. An essential part of the treatment is to do post-operative exercises. The exercises should commence within a few days of your surgery. The benefits of surgery will start immediately afterwards and it is important to keep the jaw moving as much as possible in a straight line.

Practice your exercises during the day and give yourself 15 minutes to relax during the evening.

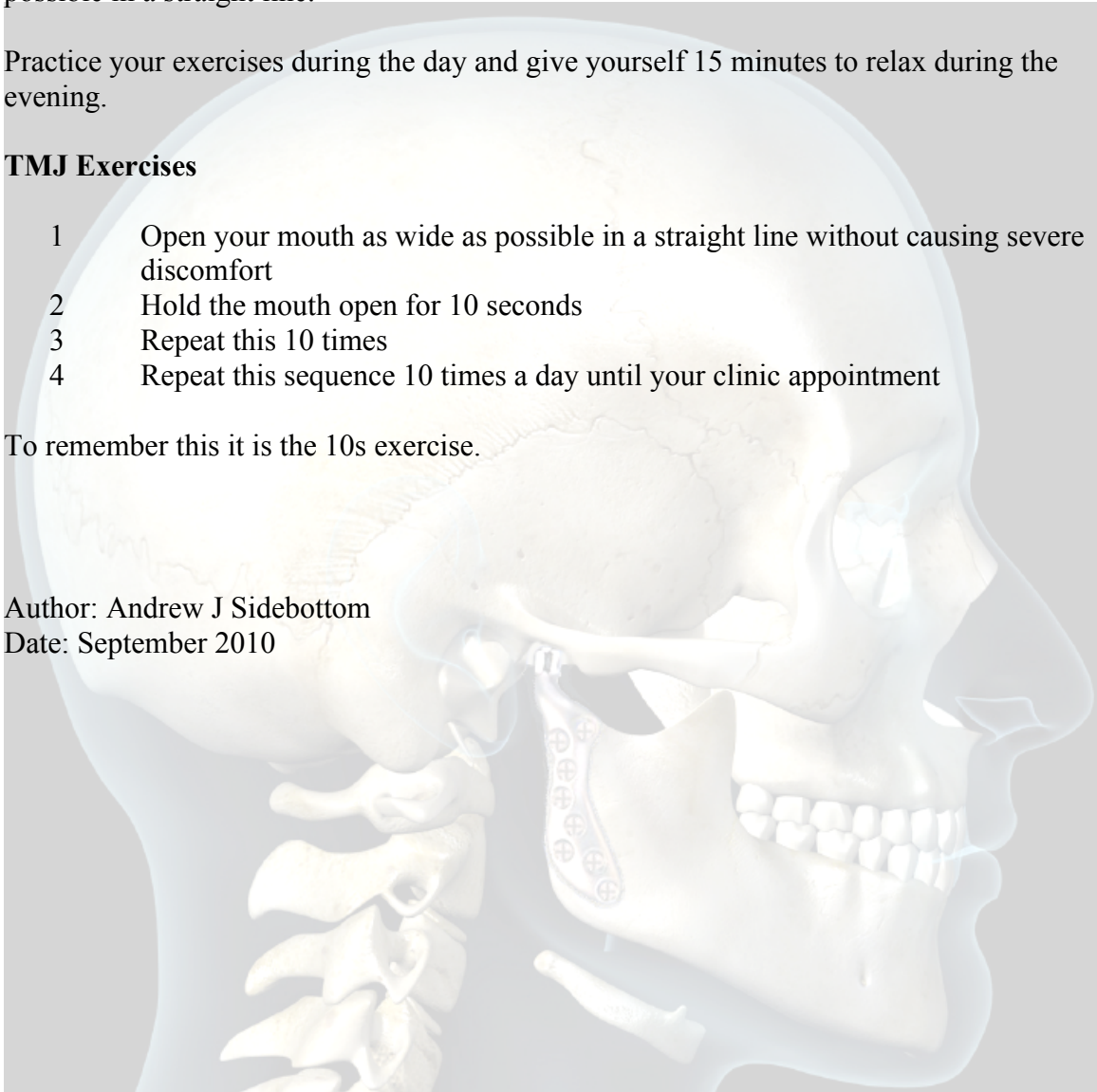
TMJ Exercises

- 1 Open your mouth as wide as possible in a straight line without causing severe discomfort
- 2 Hold the mouth open for 10 seconds
- 3 Repeat this 10 times
- 4 Repeat this sequence 10 times a day until your clinic appointment

To remember this it is the 10s exercise.

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Date: September 2010



Temporomandibular Joint Eminectomy for Recurrent Dislocation

This procedure is for reduction of recurrent dislocation. It takes about 1 hour per side and you will remain in hospital for 2-3 days after the operation. It involves an incision in front of the ear, extending into the hairline along the line of your skin creases and will fade with time. The sutures will be removed at 5-7 days.

The prominence in front of the joint will be removed and the disc within the joint repositioned to a more acceptable anatomical relationship. Your mouth opening should improve after a few weeks and any pain will be reduced. You should be able to comfortably eat a more solid diet, but I would discourage the use of chewing gum or sticky and chewy foods.

The success rate of this procedure for dislocation is 80% reduction in dislocation. The alternative for dislocation is injections around the joint to greatly restrict opening.

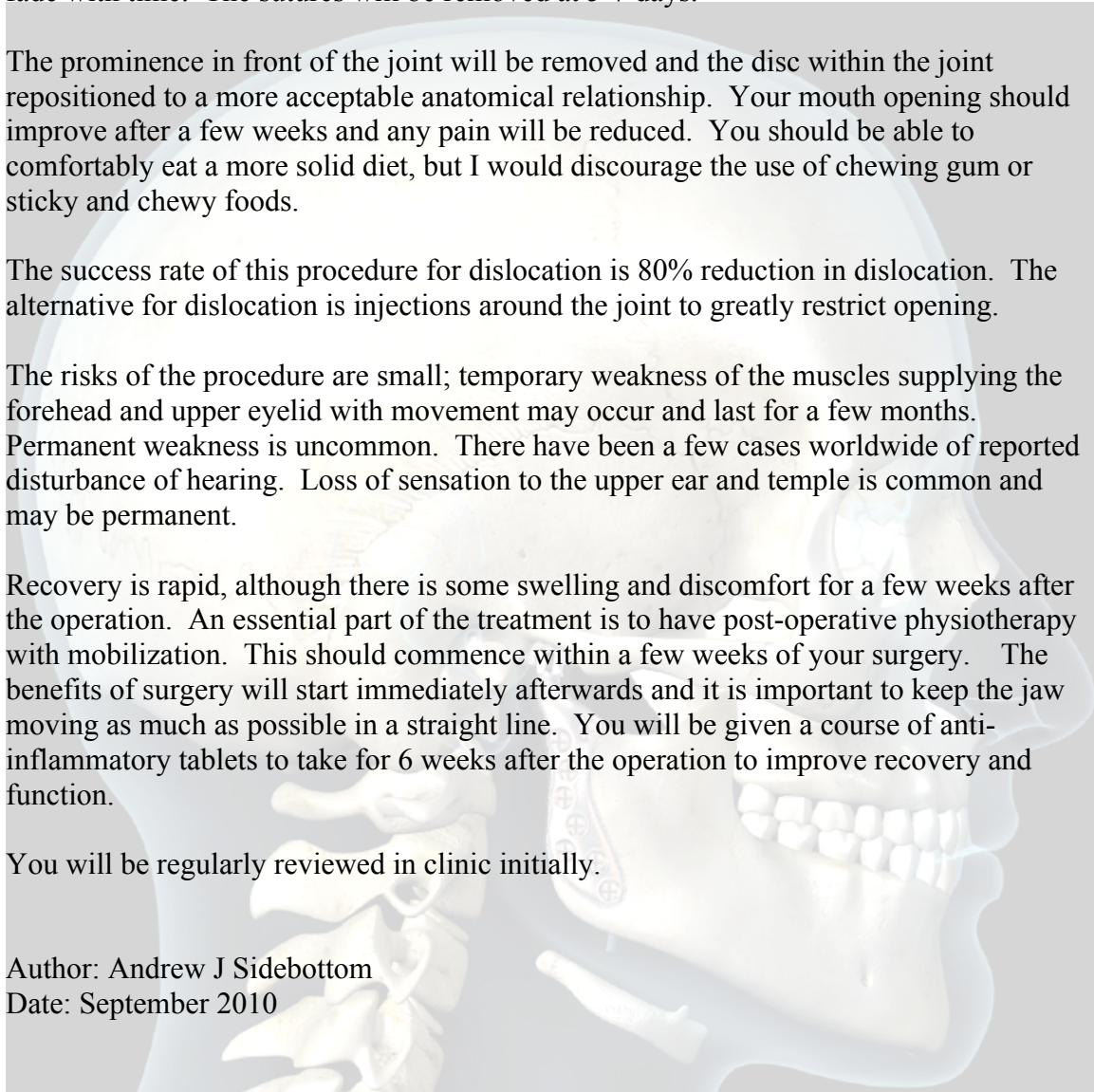
The risks of the procedure are small; temporary weakness of the muscles supplying the forehead and upper eyelid with movement may occur and last for a few months. Permanent weakness is uncommon. There have been a few cases worldwide of reported disturbance of hearing. Loss of sensation to the upper ear and temple is common and may be permanent.

Recovery is rapid, although there is some swelling and discomfort for a few weeks after the operation. An essential part of the treatment is to have post-operative physiotherapy with mobilization. This should commence within a few weeks of your surgery. The benefits of surgery will start immediately afterwards and it is important to keep the jaw moving as much as possible in a straight line. You will be given a course of anti-inflammatory tablets to take for 6 weeks after the operation to improve recovery and function.

You will be regularly reviewed in clinic initially.

Author: Andrew J Sidebottom

Date: September 2010



Temporomandibular Joint Discectomy for Pain

This procedure is for reduction of pain and clicking of the jaw joint. It takes about 1 hour per side and you will remain in hospital for 2-3 days after the operation. It involves an incision in front of the ear, extending into the hairline along the line of your skin creases and will fade with time. The sutures will be removed at 5-7 days.

The cartilage disc within the joint will be removed and possibly replaced with some muscle from the area. Your mouth opening should improve after a few weeks and any pain will be reduced in about 8 out of 10 cases. You should be able to comfortably eat a more solid diet, but I would discourage the use of chewing gum or sticky and chewy foods.

The success rate of this procedure for pain and clicking is about 80% improvement in pain and opening over 10 years. The alternative is continued medical treatment or joint replacement.

The risks of the procedure are small; temporary weakness of the muscles supplying the forehead and upper eyelid with movement may occur and last for a few months. Permanent weakness is uncommon. There have been a few cases worldwide of reported disturbance of hearing. Loss of sensation to the upper ear and temple is common and may be permanent.

Recovery is rapid, although there is some swelling and discomfort for a few weeks after the operation. An essential part of the treatment is to have post-operative physiotherapy with mobilization. This should commence within a few weeks of your surgery. The benefits of surgery will start immediately afterwards and it is important to keep the jaw moving as much as possible in a straight line. You will be given a course of anti-inflammatory tablets to take for 6 weeks after the operation to improve recovery and function.

You will be regularly reviewed in clinic initially.

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Date: September 2010

Condylar Shave for Condylar Hyperplasia

This procedure is for reduction of growth of one side of the jaw due to an overgrowth of the jaw joint. It takes about 1 hour and you will remain in hospital for 2-3 days after the operation. It involves an incision in front of the ear, extending into the hairline along the line of your skin creases and will fade with time. A drain will be placed within the incision, which will be removed after 24 hours. The sutures will be removed at 5-7 days.

The upper surface of the lower jaw within the joint will be removed and the disc within the joint repositioned to an acceptable anatomical relationship. Your mouth opening should improve after a few weeks. You should be able to comfortably eat a solid diet after a few weeks, but I would discourage the use of chewing gum or sticky and chewy foods for several months.

The success rate of this procedure for reducing growth is about 80%. You will however need independent consideration of any facial midline discrepancy. This may require subsequent surgical correction.

The risks of the procedure are small; temporary weakness of the muscles supplying the forehead and upper eyelid with movement may occur and last for a few months. Permanent weakness is uncommon. There have been a few cases worldwide of reported disturbance of hearing. Loss of sensation to the upper ear and temple is common and may be permanent.

Recovery is rapid, although there is some swelling and discomfort for a few weeks after the operation. An essential part of the treatment is to have post-operative physiotherapy with mobilization. This should commence within a few weeks of your surgery. The benefits of surgery will be reduced if mouth opening decreases and it is important to keep the jaw moving as much as possible in a straight line. You will be given a course of anti-inflammatory tablets to take for 6 weeks after the operation to improve recovery and function. These also reduce the risk of the joint fusing (ankylosis).

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Date: September 2010

Condylar Shave for Pain or Osteoarthritis

This procedure is for reduction of pain and clicking of the jaw joint. It takes about 1 hour per side and you will remain in hospital for 2-3 days after the operation. It involves an incision in front of the ear, extending into the hairline along the line of your skin creases and will fade with time. The sutures will be removed at 5-7 days.

The upper surface of the lower jaw within the joint will be removed and the disc within the joint repositioned to a more acceptable anatomical relationship. Your mouth opening should improve after a few weeks and any pain will be reduced. You should be able to comfortably eat a more solid diet, but I would discourage the use of chewing gum or sticky and chewy foods.

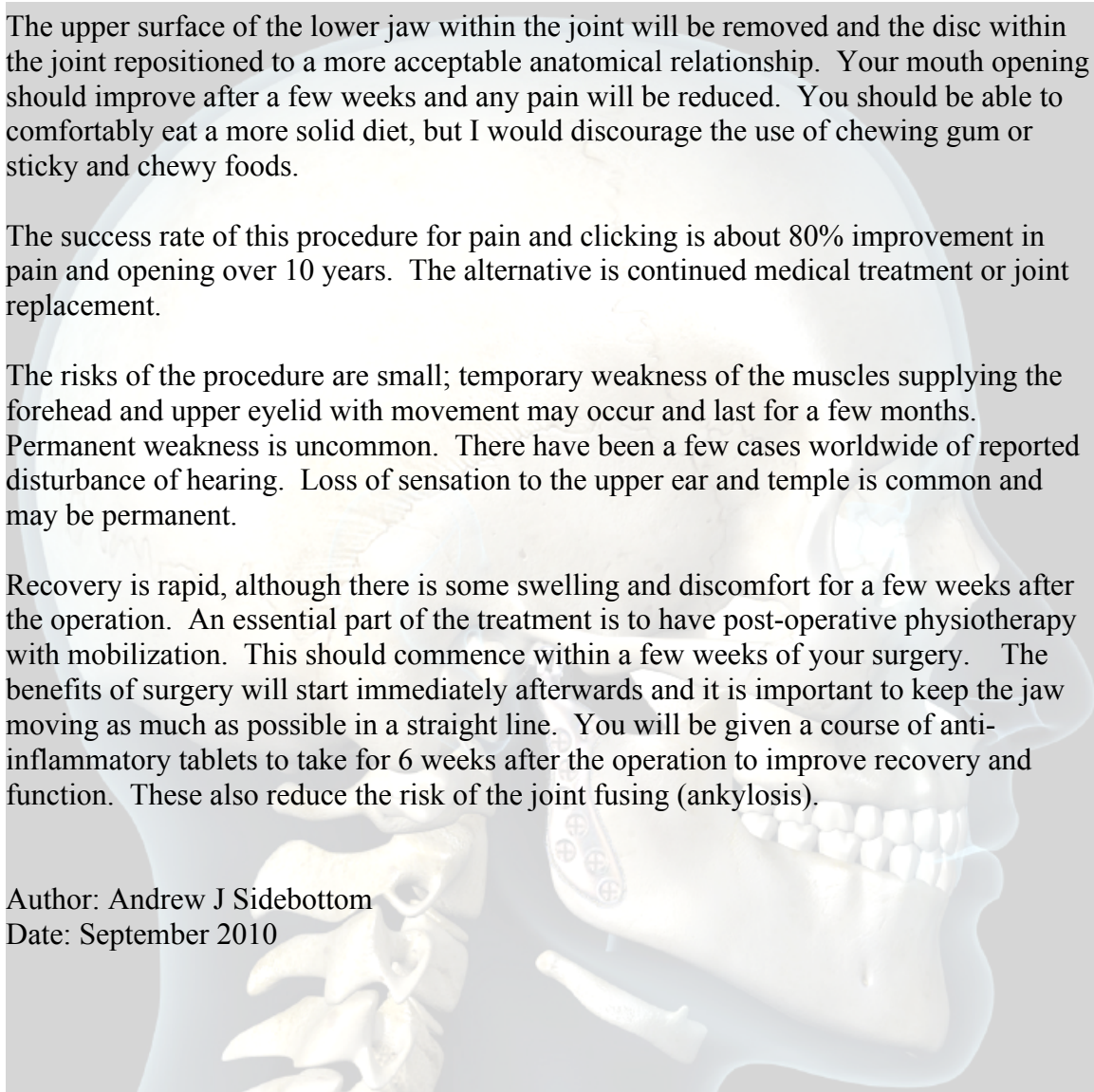
The success rate of this procedure for pain and clicking is about 80% improvement in pain and opening over 10 years. The alternative is continued medical treatment or joint replacement.

The risks of the procedure are small; temporary weakness of the muscles supplying the forehead and upper eyelid with movement may occur and last for a few months. Permanent weakness is uncommon. There have been a few cases worldwide of reported disturbance of hearing. Loss of sensation to the upper ear and temple is common and may be permanent.

Recovery is rapid, although there is some swelling and discomfort for a few weeks after the operation. An essential part of the treatment is to have post-operative physiotherapy with mobilization. This should commence within a few weeks of your surgery. The benefits of surgery will start immediately afterwards and it is important to keep the jaw moving as much as possible in a straight line. You will be given a course of anti-inflammatory tablets to take for 6 weeks after the operation to improve recovery and function. These also reduce the risk of the joint fusing (ankylosis).

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Date: September 2010



Temporomandibular Joint Cryoanalgesia

This procedure is a pain relieving operation of the jaw joint. It takes about 30 minutes and can be performed as a day case procedure (you can go home the day of the surgery) unless there is a medical or social reason to remain in hospital.

It involves a small incision in front of the ear in a skin crease. The sutures will be removed after 5-7 days. The nerve which supplies the joint also supplies the upper ear and temple. This nerve is frozen to try to damage the pain producing fibres without permanently injuring the sensory fibres. The joint is then washed out under pressure to clear any products of inflammation and to permit more normal movement of the joint.

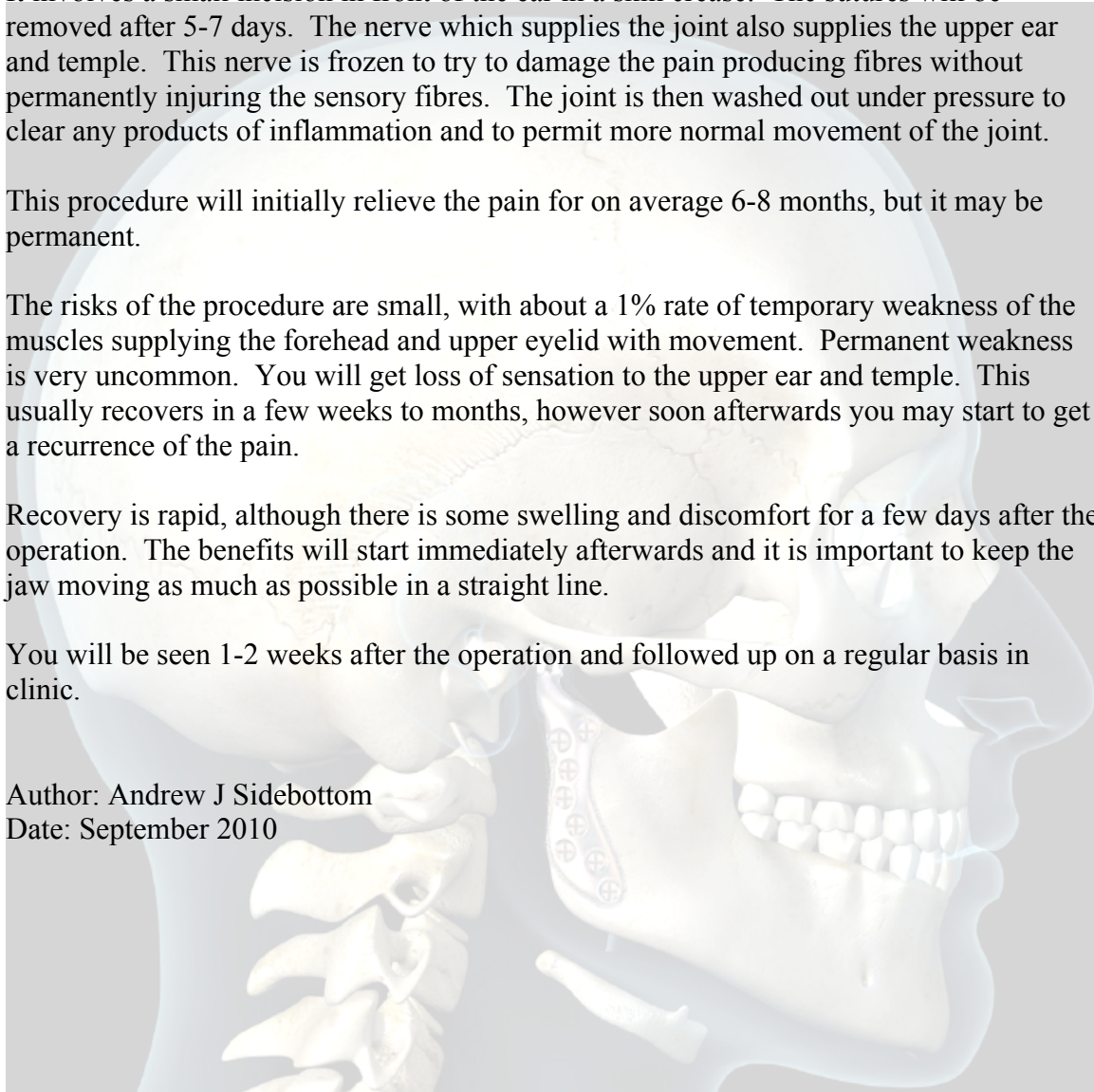
This procedure will initially relieve the pain for on average 6-8 months, but it may be permanent.

The risks of the procedure are small, with about a 1% rate of temporary weakness of the muscles supplying the forehead and upper eyelid with movement. Permanent weakness is very uncommon. You will get loss of sensation to the upper ear and temple. This usually recovers in a few weeks to months, however soon afterwards you may start to get a recurrence of the pain.

Recovery is rapid, although there is some swelling and discomfort for a few days after the operation. The benefits will start immediately afterwards and it is important to keep the jaw moving as much as possible in a straight line.

You will be seen 1-2 weeks after the operation and followed up on a regular basis in clinic.

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Date: September 2010



Temporomandibular Joint Replacement

This procedure is an end stage operation with metal on metal or polyethylene (plastic) replacement of the jaw joint. It takes about 3 hours per side and you will remain in hospital for 2-3 days after the operation. It involves an incision in front of the ear, extending into the hairline and a second incision in the neck behind the jaw line. These incisions are along the line of your skin creases and will fade with time. The sutures will be removed at 5-7 days.

Your mouth will be wired together whilst you are asleep to prevent a disturbance in the way your teeth bite together. These wires will be removed before you wake up. The new joint will be fixed in position with screws into the base of the skull and your lower jaw. There will be the sound of metal rubbing when you move the joint with the metal on metal joint, although this should not disturb you after a while. Your mouth opening should improve afterwards and the pain will be reduced. You should be able to comfortably eat a more solid diet, but I would discourage the use of chewing gum or sticky and chewy foods.

The success rate of this procedure worldwide is that 90% of people get an improvement in pain and opening over 10 years. The alternative is management of the pain from the joint with long-term medication.

The risks of the procedure are small; temporary weakness of the muscles supplying the forehead and upper eyelid with movement or the corner of the mouth may occur and last for a few months. Permanent weakness is uncommon. There have been a few cases worldwide of reported disturbance of hearing. Loss of sensation to the upper ear and temple is common and may be permanent. Loss of sensation to the lower lip and gums may occur. This may be only transient.

Recovery is rapid, although there is some swelling and discomfort for a few weeks after the operation. An essential part of the treatment is to have post-operative physiotherapy with mobilization. This should commence within a few days of your surgery. You will be given a device to aid you to improve mouth opening at home, which should be used immediately after the operation. The benefits of surgery will start immediately afterwards and it is important to keep the jaw moving as much as possible in a straight line for several months afterwards. You will be given a course of anti-inflammatory tablets to take for 6 weeks after the operation to improve recovery and function and also antibiotics for 5 days.

You will be regularly reviewed in clinic initially and less regularly for the rest of your life.

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Date: September 2010