The Special Needs Patient in Orthodontics

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School of Dentistry

The Special Needs Patient in Orthodontics

- Rationale for treating disabled patients
- Who is prepared to treat them?
- Preparing the child for treatment
- Drawing up a general treatment direction
- Choosing the suitable management modality
- Adapting traditional orthodontics to the Special Needs Patient
- The ethical dilemma revisited

Becker, A. and Chaushu, S. (2004)

Australian Society of Orthodontics Meeting

Rationale for treating disabled patients

Dental disability

Medically necessary care

Persons with special care needs

Definition of Dental Disability

Dental caries, periodontal disease, and other oral conditions if left untreated can limit substantially a child's development and an individuals participation in life activities





Pediatric Dentistry, Vol. 26 No. 7 Reference Manual 2004-2005

Definition of Dental Disability

A person should be considered to have a dental disability if they have pain, infection, or a lack of a functional dentition:

1. Restricts nutritional intake adequate for growth and energy needs.
2. Delays or otherwise alters growth and development; or
3. Inhibits participation in life activities

Pediatric Dentistry, Vol. 26 No. 7 Reference Manual 2004-2005

Definition of Medically Necessary Care

Medically necessary care is the **reasonable and appropriate diagnostic, preventive and treatment services and follow-up care (including supplies, appliances and devices)** as determined by qualified, appropriate health care providers in treating any condition, disease, injury or congenital or developmental malformation.

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Definition of Medically Necessary Care

Medically necessary care includes all health care services that directly support the delivery of dental/oral health care that in the judgment of the attending dentist, are necessary for the provision of optimal quality therapeutic and preventive oral care to the patients with medical, physical or behavioral conditions. (cont.)

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Definition of Medically Necessary Care

These services include, but are not limited to, sedation, general anesthesia and utilization of surgical facilities.

Definition of Medically Necessary Care

Dental care is medically necessary for the purpose of **preventing, controlling and eliminating orofacial infection, pain and disease and correcting facial disfiguration or dysfunction.**

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Definition of Persons with Special Health Care Needs

Persons are considered to have special care needs if they have a **physical, developmental, mental, sensory, behavioral, cognitive, or emotional impairment or limiting condition that requires medical management, health care intervention, and/or use of specialized services or programs.**

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Definition of Persons with Special Health Care Needs

The condition may be developmental or acquired and may cause limitations in performing daily self-maintenance activities or substantial limitations in a major life activity.

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Definition of Persons with Special Health Care Needs

Health care for special needs patients is beyond that considered routine and requires specialized, knowledge, increased awareness and attention and accommodation.

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Who is Prepared to Treat Them?

Australian Dental Association

- Ask for a dentist skilled/experienced in treating disabled patients

Pediatric Dentist or General Dentist or Special Needs Dentist (Specialist) **(Daniel Sundaresan in WA)**

Usually within a Public Institution/Facility

Advice Disability Services

Orthodontics for Special Needs Patients

Jackson, E. F. (1967)

Orthodontics and the retarded child,

American Journal of Orthodontics, **53**, 596-605.

Orthodontics for the handicapped child

As early as 1967 **Jackson suggested methods for orthodontic treatment for patients with learning disabilities**

Jackson, E. F. (1967)
Orthodontics and the retarded child,
American Journal of Orthodontics, **53**, 596-605.

Orthodontics for Special Needs Patients

Ackerman, A. and Wiltshire W. A. (1994)

The occlusal status of disabled children, *Journal of the Dental Association of South Africa*, **49**, 447-51.

The occlusal status of disabled children

The occlusal status of children of six schools for the handicapped was determined using the occlusal index (O.I.) of Summers. **The study showed 75% required treatment 10.5% had good occlusions and 15% had slight malocclusions where treatment was not considered essential.**

Ackerman, A. and Wiltshire W. A. (1994)
The occlusal status of disabled children,
Journal of the Dental Association of South Africa, **49**, 447-51.

The occlusal status of disabled children

The study indicated that 40.6% of children were interested in receiving orthodontic treatment, **but only 0.5% were planning to seek it.**

Ackerman, A. and Wiltshire W. A. (1994)
The occlusal status of disabled children,
Journal of the Dental Association of South Africa, **49**, 447-51.

Orthodontics for Special Needs Patients

Becker, A., and Shapira, J. (1996)
Orthodontics for the handicapped child,
European Journal of Orthodontics, **18**, 55-67.

Orthodontics for the handicapped child

In 1996 Becker and Shapira presented guidelines for the orthodontic treatment of the handicapped child. **They discussed therapeutic modalities new and old that could be utilized in the treatment of the malocclusion of handicapped children.**

Becker, A., and Shapira, J. (1996)
Orthodontics for the handicapped child,
European Journal of Orthodontics, **18**, 55-67.

Orthodontics for the handicapped child

Four basic requirements an orthodontic patient must demonstrate:

- **Motivation**
- **Oral hygiene**
- **Behaviour management**
- **Manual dexterity**

In the context of these patients the parents or carers can supplement the requirements

Becker, A., and Shapira, J. (1996)
Orthodontics for the handicapped child,
European Journal of Orthodontics, **18**, 55-67.

Orthodontics for the handicapped child

General treatment principles still apply:

- Clinical examination
- Diagnostic records
- Prioritized problem list
- Treatment objectives
- Treatment Plan

Becker, A., and Shapira, J. (1996)
Orthodontics for the handicapped child,
European Journal of Orthodontics, **18**, 55-67.

Orthodontics for the handicapped child

The Role of the Parent or Carer:

Oral Hygiene

Caries prevention prophylaxis (diet control, fluoride application, etc.)

Appliance care

Becker, A., and Shapira, J. (1996)
Orthodontics for the handicapped child,
European Journal of Orthodontics, **18**, 55-67.

Orthodontics for the handicapped child

The role of the orthodontist:

1. There is the need **to aim for realistic treatment goals, which must be adapted to the individual patient's needs and capabilities** (Willard and Nowak, 1981)

Becker, A., and Shapira, J. (1996)
Orthodontics for the handicapped child,
European Journal of Orthodontics, **18**, 55-67.

Orthodontics for the handicapped child

The role of the orthodontist:

2. It is advisable to use a simplified appliance design to make activation independent of the patient (Becker 1993)

Becker, A., and Shapira, J. (1996)
Orthodontics for the handicapped child,
European Journal of Orthodontics, **18**, 55-67.

Orthodontics for the handicapped child

The role of the orthodontist:



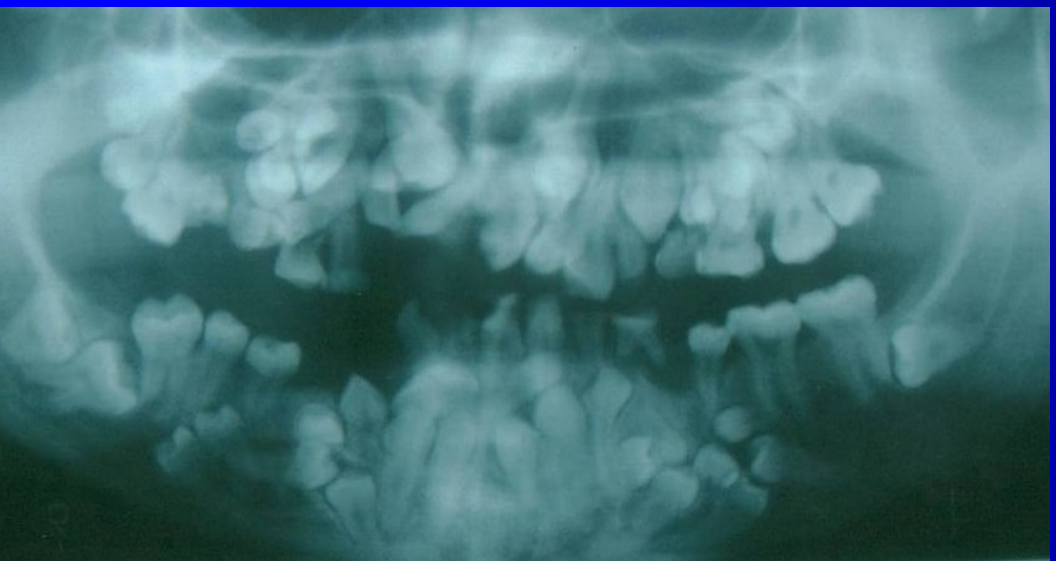
3. Conscious sedation is a pharmacologically induced state of relaxation in which the patient remains conscious, but with significant alteration of mood and co-cooperativeness throughout the dental treatment. This has played an increasingly important part in the orthodontic treatment of handicapped children.

Becker, A., and Shapira, J. (1996) Orthodontics for the handicapped child, *European Journal of Orthodontics*, **18**, 55-67.

Orthodontics for the handicapped child

The role of the orthodontist:

4. **Strategic extractions that will allow spontaneous corrective movements of adjacent teeth.** This will often minimize the need for and extent of mechanotherapy.



Becker, A., and Shapira, J. (1996)
Orthodontics for the handicapped child,
European Journal of Orthodontics, **18**, 55-67.

Orthodontics for the handicapped child

The role of the orthodontist:

5. **The use of *en bloc (all of the teeth moved as a unit)* extra-oral removable appliances for growth modification (full-time).** Where the parents cooperate with this appliance, the results may be truly dramatic.





Becker, A., and Shapira, J. (1996) Orthodontics for the handicapped child, *European Journal of Orthodontics*, **18**, 55-67.

Orthodontics for Special Needs Patients

S. M. Chadwick and C. Asher-McDade (1997)
The orthodontic management of patients with profound learning disability,
British Journal of Orthodontics, **24**, 117-125.

The orthodontic management of patients with profound learning disability

Patient selection

Treatment planning

Clinical management

S. M. Chadwick and C. Asher-McDade (1997)
The orthodontic management of patients with profound learning disability, *British Journal of Orthodontics*, **24**, 117-125.

The orthodontic management of patients with profound learning disability

Due the need to provide routine dental care of many of these patients under general anesthetic (GA). **Close coordination of these procedures with orthodontic treatment is recommended.** Increases the GA time, but otherwise would not place the patient under any additional risk.



S. M. Chadwick and C. Asher-McDade (1997)
The orthodontic management of patients with profound learning disability, *British Journal of Orthodontics*, **24**, 117-125.

The orthodontic management of patients with profound learning disability

Elective procedures on patients with a learning disability raise moral and ethical questions.

S. M. Chadwick and C. Asher-McDade (1997)
The orthodontic management of patients with profound learning disability, *British Journal of Orthodontics*, **24**, 117-125.

The orthodontic management of patients with profound learning disability

There may be considerable pressure from parents/carers for some form of treatment to improve the patient's "quality of life." **The risks of orthodontic treatment must be carefully explained to allow the parents/carers to provide informed consent.**

S. M. Chadwick and C. Asher-McDade (1997)
The orthodontic management of patients with profound learning disability, *British Journal of Orthodontics*, **24**, 117-125.

The orthodontic management of patients with profound learning disability

Elective procedures for patients with learning disability are not limited to dental treatment. Similar ethical and moral questions have been raised concerning elective surgery for patients with Downs Syndrome in order to improve their speech and appearance.

S. M. Chadwick and C. Asher-McDade (1997)
The orthodontic management of patients with profound learning disability, *British Journal of Orthodontics*, **24**, 117-125.

The orthodontic management of patients with profound learning disability

Following orthodontic treatment for patients with learning disabilities an improvement in the parent-child relationship has been reported, **but an improvement in "quality of life" or social acceptability is difficult to quantify, particularly if the patients themselves are not able to express their feelings.**

S. M. Chadwick and C. Asher-McDade (1997)
The orthodontic management of patients with profound learning disability, *British Journal of Orthodontics*, **24**, 117-125.

Orthodontics for Special Needs Patients

Chaushu, S. and Becker A. (2000)

Behaviour management needs for the children with disabilities,

European Journal of Orthodontics, **22**, 143-149.

Behaviour management needs for the children with disabilities

This investigation studied the modes of behaviour management used in the orthodontic treatment of disabled children, and the preferred criteria.

Chaushu, S.and Becker A. (2000)
Behaviour management needs for the children with disabilities, *European Journal of Orthodontics*, **22**, 143-149.

Behaviour management needs for the children with disabilities

Five specific factors, frequently seen in disabled children, **gag reflex, drooling, uncontrollable movements, inability to remain still, and the need for additional procedures, were graded and a scoring system** was devised to include these factors within the assessment.

Chaushu, S.and Becker A. (2000)
Behaviour management needs for the children with disabilities, *European Journal of Orthodontics*, **22**, 143-149.

Behaviour management needs for the children with disabilities

The scoring system may be use to evaluate new patients and to assist in a choice of the **selection of an appropriate behavioral management mode.**

Chaushu, S.and Becker A. (2000)
Behaviour management needs for the children with disabilities, *European Journal of Orthodontics*, **22**, 143-149.

Orthodontics for Special Needs Patients

Becker A., Shapira J. and Chaushu, S. (2000)

Orthodontic treatment for disabled children: motivation, expectation, and satisfaction.

European Journal of Orthodontics, **22**, 225-8.

Orthodontic treatment for disabled children: motivation, expectation, and satisfaction.

This study was designed to **measure motivation for and expectation of proposed orthodontic treatment for disabled children, and to examine the level of satisfaction with the results of this treatment, in the eyes of the parents.** A two part questionnaire was sent to the parents of treated disabled children

Becker A., Shapira J. and Chaushu, S. (2000)
Orthodontic treatment for disabled children: motivation, expectation, and satisfaction.
European Journal of Orthododontics, **22**, 151-158.

Orthodontic treatment for disabled children: motivation, expectation, and satisfaction.

The parents expected improvement in the child's appearance with a concomitant improvement in his/her social acceptance.

Becker A., Shapira J. and Chaushu, S. (2000)
Orthodontic treatment for disabled children: motivation, expectation, and satisfaction.
European Journal of Orthododontics, **22**, 151-158.

Orthodontic treatment for disabled children: motivation, expectation, and satisfaction.

These expectations from the treatment were found to be exaggerated, with only a minority of the parents claiming a marked improvement in their child's everyday functioning, or a significant social improvement.

Becker A., Shapira J. and Chaushu, S. (2000)
Orthodontic treatment for disabled children: motivation, expectation, and satisfaction.
European Journal of Orthododontics, **22**, 151-158.

Orthodontic treatment for disabled children: motivation, expectation, and satisfaction.

Nevertheless most of the parents were satisfied with treatment, and reported that 17 of the children themselves, who were aware of a change, considered it an improvement. A majority of the children understood the reasons for treatment, in the most general of terms.

Becker A., Shapira J. and Chaushu, S. (2000)
Orthodontic treatment for disabled children: motivation, expectation, and satisfaction. *European Journal of Orthododontics,* **22**, 151-158.

Orthodontic treatment for disabled children: motivation, expectation, and satisfaction.

With only one exception, **the parents stated that they would repeat the procedure, given the same set of circumstances**, and all of them would recommend it for other disabled children.

Becker A., Shapira J. and Chaushu, S. (2000)
Orthodontic treatment for disabled children: motivation, expectation, and satisfaction.
European Journal of Orthododontics, **22**, 151-158.

Orthodontic treatment for disabled children: motivation, expectation, and satisfaction.

It may be concluded that even though orthodontic treatment in this group of patients does not yield the desired social influence, **the individual benefits from the treatment are worthwhile.**

Becker A., Shapira J. and Chaushu, S. (2000)
Orthodontic treatment for disabled children: motivation, expectation, and satisfaction.
European Journal of Orthododontics, **22**, 151-158.

Orthodontics for Special Needs Patients

Chaushu, S., Zeltser R. and Becker A. (2000)

Safe orthodontic banding for children with disabilities during general anesthesia,

European Journal of Orthodontics, **22**, 225-8.

Safe orthodontic banding for children with disabilities during general anesthesia

General anesthesia (GA) may be employed to overcome management difficulties in the orthodontic treatment of disabled children. **This report introduces the application of rubber dam as a useful aid for a high quality bonding and as an effective safeguard in bonding of brackets**

Chaushu, S., Zeltser R. and Becker A. (2000)
Safe orthodontic banding for children with disabilities during general anesthesia, *European Journal of Orthodontics*, **22**, 225-8.

Safe orthodontic banding for children with disabilities during general anesthesia

This report introduces the application of rubber dam as a useful aid for a high quality bonding and as an effective safeguard in bonding of brackets in (GA), in the handicapped in particular.



Chaushu, S., Zeltser R. and Becker A. (2000)
Safe orthodontic banding for children with disabilities during general anesthesia, *European Journal of Orthodontics*, **22**, 225-8.

Safe orthodontic banding for children with disabilities during general anesthesia

Additional procedures, such as extractions or exposure of impacted teeth may be carried out only after removal of the rubber dam, but before archwire placement, wherever possible.

Chaushu, S., Zeltser R. and Becker A. (2000)
Safe orthodontic banding for children with disabilities during general anesthesia, *European Journal of Orthodontics*, **22**, 225-8.

Orthodontics for Special Needs Patients

Chaushu, S., Gozal, D. and Becker A. (2002)

Intravenous sedation: an adjunct to enable orthodontic treatment for children with disabilities.

European Journal of Orthodontics, **24**, 81-89.

Intravenous sedation: an adjunct to enable orthodontic treatment for children with disabilities

Intravenous (IV) sedation has become established as an important and preferred alternative to general anesthesia (GA), in order to overcome difficulties in patient management encountered in the delivery of routine dental treatment of the disabled.

Chaushu, S., Gozal, D. and Becker A. (2002)
Intravenous sedation: an adjunct to enable orthodontic treatment for children with disabilities.
European Journal of Orthodontics, **24**, 81-89.

Intravenous sedation: an adjunct to enable orthodontic treatment for children with disabilities

The study describes the use of **IV sedation to enable the performance of certain complex orthodontic and surgical procedures**, which require strict control of the oral environment for prolonged periods.

Chaushu, S., Gozal, D. and Becker A. (2002)
Intravenous sedation: an adjunct to enable orthodontic treatment for children with disabilities.
European Journal of Orthodontics, **24**, 81-89.

Intravenous sedation: an adjunct to enable orthodontic treatment for children with disabilities

The use of IV sedation provided a satisfactory management modality in these patients, who had previously been referred for GA.

Chaushu, S., Gozal, D. and Becker A. (2002)
Intravenous sedation: an adjunct to enable orthodontic treatment for children with disabilities.
European Journal of Orthodontics, **24**, 81-89.

Intravenous sedation: an adjunct to enable orthodontic treatment for children with disabilities

The parents reported complete satisfaction and general agreement that the same modality would again be welcomed.

Chaushu, S., Gozal, D. and Becker A. (2002)
Intravenous sedation: an adjunct to enable orthodontic treatment for children with disabilities.
European Journal of Orthodontics, **24**, 81-89.

Intravenous sedation: an adjunct to enable orthodontic treatment for children with disabilities

IV sedation significantly reduces the use of GA and makes treatment more readily available to a larger number of disabled patients.

Chaushu, S., Gozal, D. and Becker A. (2002)
Intravenous sedation: an adjunct to enable orthodontic treatment for children with disabilities.
European Journal of Orthodontics, **24**, 81-89.

The Ethical Dilemma

First Do No Harm

Medically Necessary Treatment

Medically necessary care is the reasonable and appropriate diagnostic, preventive and treatment services (including supplies, appliances and devices) and follow-up care as determined by qualified, appropriate health care providers in treating any condition, disease, injury or congenital or developmental malformation.

Dentally

The Ethical Dilemma Revisited

Dental care is medically necessary for the purpose of preventing, controlling and eliminating orofacial infection, pain and disease and correcting facial disfiguration or dysfunction.

Phoebe





- Female
- Developmental learning disorder
- Moderate to severe skeletal malocclusion

Pheobe







Phoebe





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2 November 2004

Dr Mike Razza
Booragoon Orthodontics
Suite 4
Gateways Building
BOORAGOON 6154

Dear Mike,

RE: Phoebe [redacted] **DOB:21 MAR 1992** **Our ref: [redacted]**
PO Box [redacted]
BROOME 6725

I would like to update your records in regard to Phoebe's recent dental treatment while visiting Perth in the past few days. As you are aware, Phoebe is one of your Broome patients who was referred for extraction of her retained and partially ankylosed primary molars. During this opportunity under general anaesthesia, impressions were taken for a rapid maxillary expansion appliance (RME) which was fitted on Monday 1 November 2004.

The dental treatment provided under general anaesthesia included:

20th October 2004

- EUA
- Intraoral Radiographic examination
- Scale, prophylaxis and fluoride treatment
- 7 x Dental extractions of retained primary teeth (teeth 55,53,63,65,75,84,85)
- 5 x Fissure sealants (teeth 16,26,37,46,47)
- Impressions for study models
- Impressions for RME.

The RME was then inserted on Monday 1 November 2004 at Southbank Clinic under sedation. Post insert instructions where also give with the RME key and further discussed with Phoebe's father ([redacted]).

Mike, the fees which I charged in regards to her Orthodontic treatment so far are;

- Study Models ($90)
- Impressions/cementation/insert of RME ($280).

I would therefore be grateful if you could charge Phoebe independently in regards to the fabrication of the RME and other Orthodontic costs. I have tried to keep this quite reasonable on my behalf so as not to complicate the cost of Orthodontic treatment. Please find enclosed in this correspondence study models and Lab fee document.

Mike, should you require any further information please contact the Bicton Rooms in regards the Phoebe's management.

Kind regards,

Dr Peter Readman

Phoebe

- GA - Diagnostic records, restorations, fit bands for rapid maxillary expansion appliance and impression for appliance fabrication.
- GA - insertion of RME
- Maintained expansion longer than average
- No sedation required to remove appliance

Nicholas

- Downs Syndrome
- Moderate to severe dental malocclusion
- Multiple missing teeth

Nicholas

- GA sedation
- Deciduous teeth extraction
- Required dental restorations
- Reassess

Nicholas

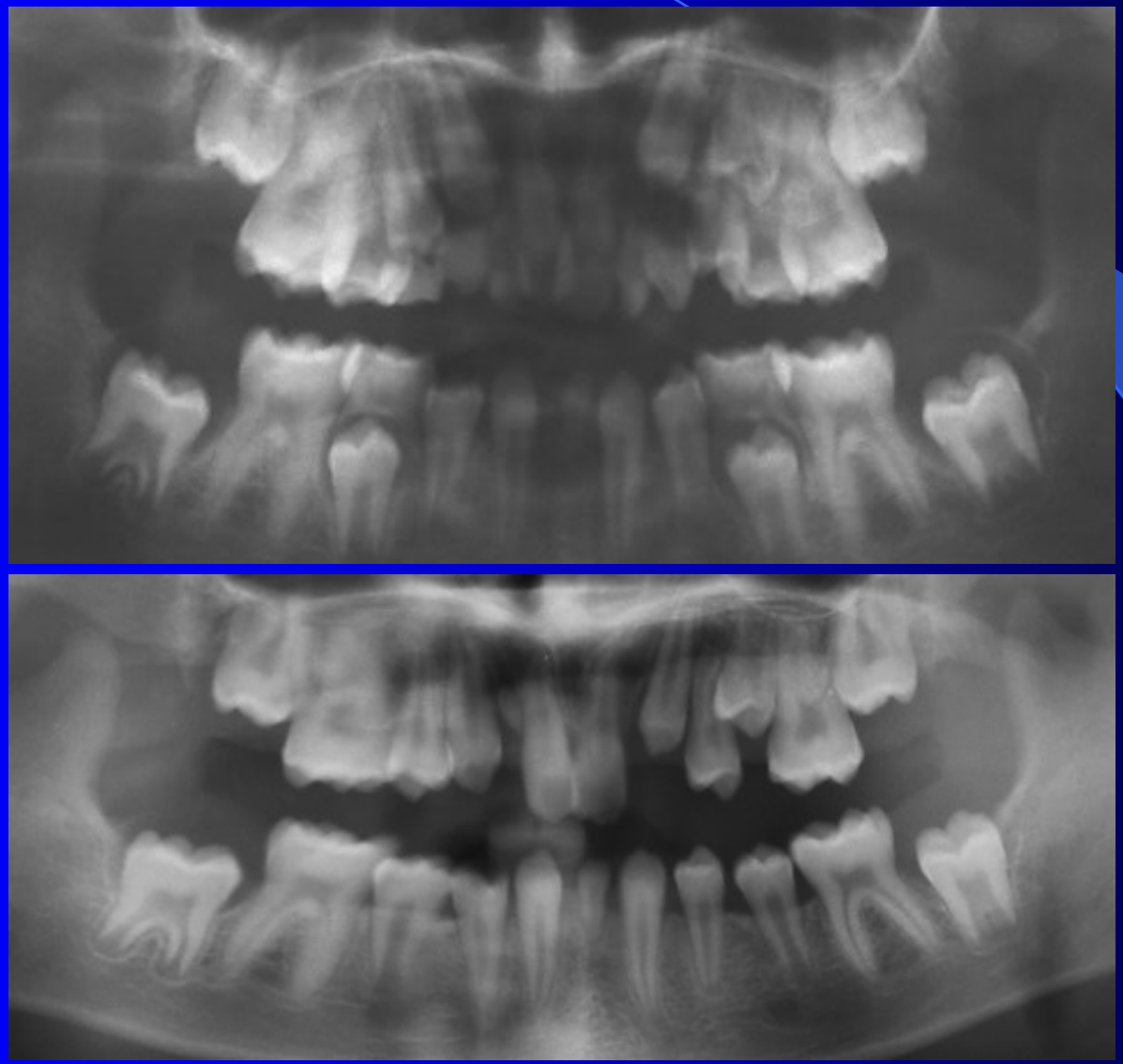


Nicholas



Spontaneous eruption of teeth and space closure to minimize the need for orthodontic or restorative treatment

Nicholas



Patrick

- Downs Syndrome
- Maxillary constriction
- Maxillary crowding
- Malalignment
- Irregular tooth form (microdontia)
- Skeletal Class II relationship

Patrick
post RME







Patrick
post RME







Patrick







Patrick









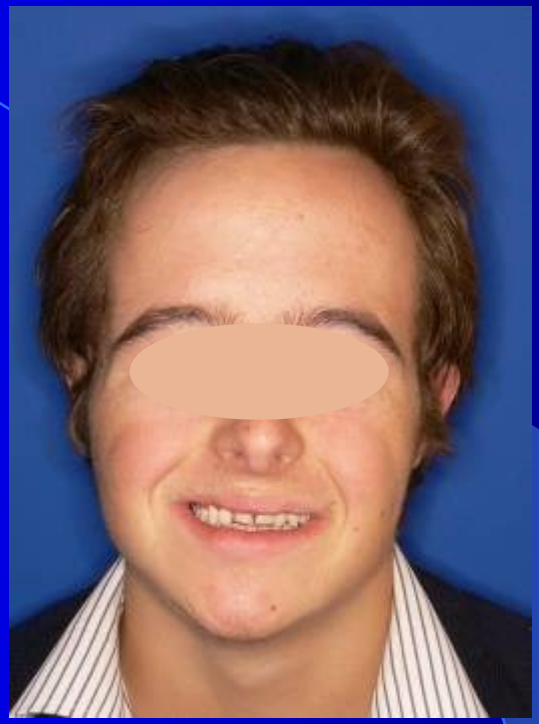


Patrick

- Rapid maxillary expansion
- Full-fixed appliances
- Force modules and/or elastics for Class II correction
- No sedation
- Significant parental and family support and involvement

Patrick







Patrick







Nathan

- Developmental disorder
- Significant visual impairment
- Moderate skeletal malocclusion Class II
- Maxillary constriction
- Malalignment
- Irregular tooth form (incomplete crown formation)

Nathan





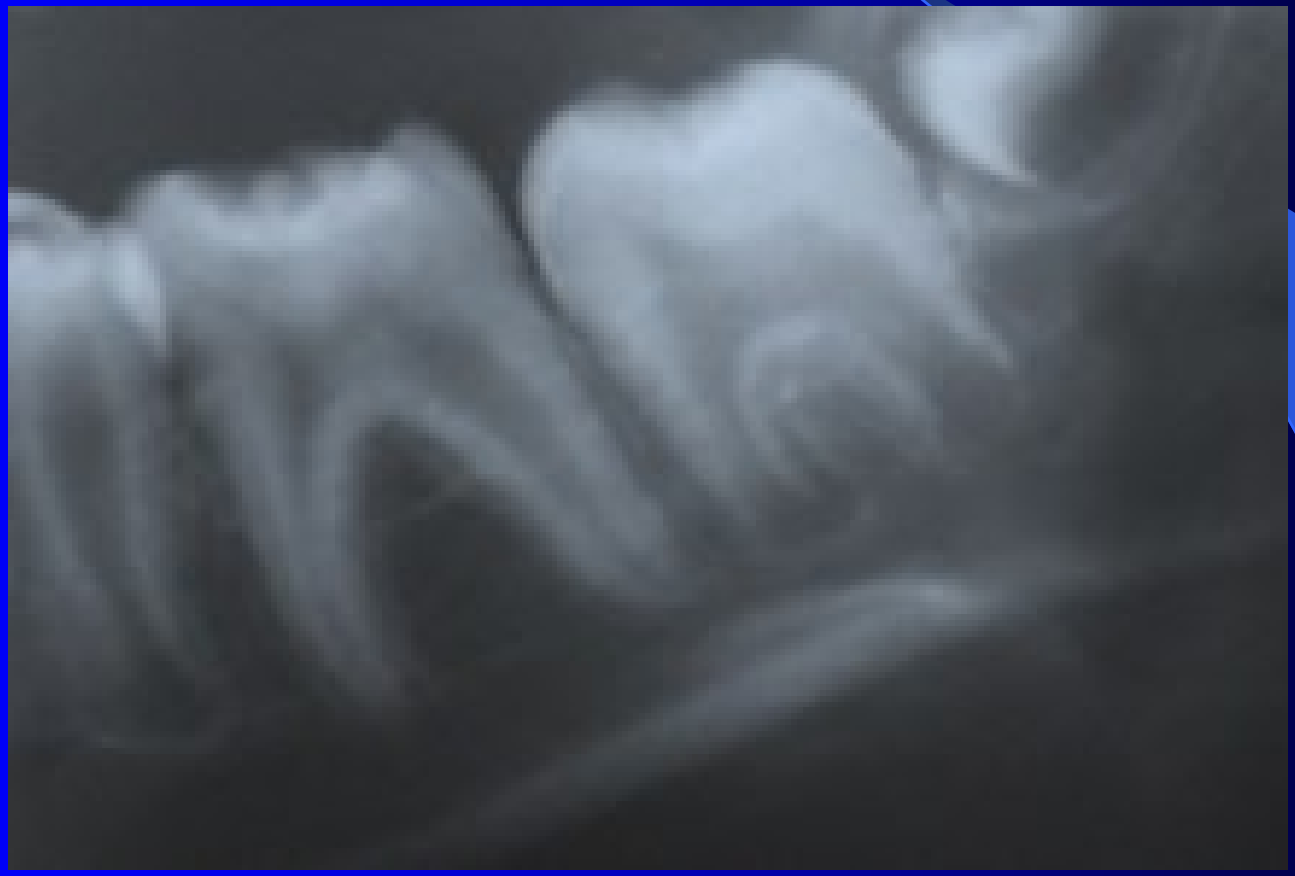


Nathan





Nathan



Nathan











Nathan

- Rapid maxillary expansion
- Upper fixed appliances
- Full-fixed appliances
- Force modules to protract the mandible
- Restoration or the dentition as required
- No sedation required
- Considerable parental involvement in home care needs

Nathan









Nathan







Nathan







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- Who is prepared to treat them?
- Preparing the child for treatment
- Drawing up a general treatment direction
- Choosing the suitable management modality
- Adapting traditional orthodontics to the Special Needs Patient
- The ethical dilemma revisited

Becker, A. and Chaushu, S. (2004)
Australian Society of Orthodontics Meeting



At the end of this course you DO NOT have the didactic knowledge or clinical skills to treat comprehensive orthodontic cases.