

## ABO Case Report Assembly

For your convenience, here is a list of supplies you will need to assemble your case reports.

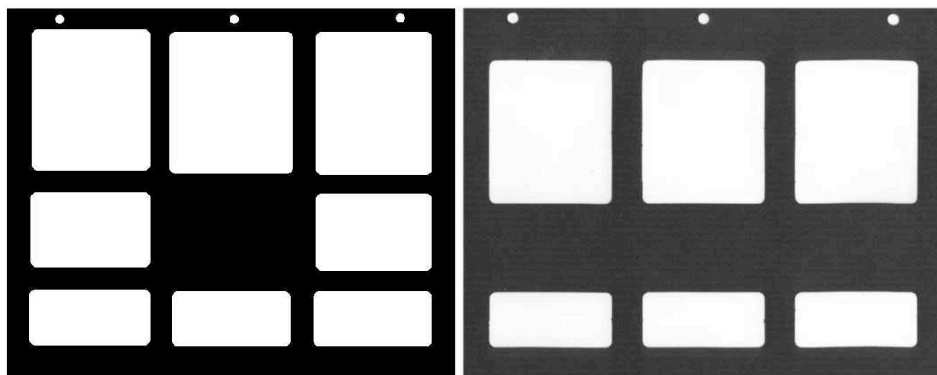
### SUPPLIES NEEDED FOR ONE CASE REPORT NOTEBOOK

Item	Quantity	Description	Purpose
3-ring binder	1	1/2", vinyl on hardboard, clear overlay on cover, two interior pockets	Case report notebook
<u>Photo Mount sheets*</u>	2 (3 if Interim Recs)	Black, custom-made; order from P&G Products 800-367-8847 #ABO-12 with occlusal views, #ABO-13 without occlusal views	Only for non-digital photo display
Sheet protectors	3 (4 if Interim Recs)	Top-loading, non-glare, 3-hole punch	For digital and non-digital photo collage, and composite tracings.
Pocket dividers	2 (3 if Interim Recs)	3-hole punch	For all radiographs and cephalometric tracings

### \*PHOTO MOUNTS WITH AND WITHOUT OCCLUSAL VIEWS

Photographs must fit in the photomount. If photographs are digital, they do not need to be placed in a photomount, but must be printed in the same arrangement.

Black, custom-made; order from P&G Products, 800-367-8847, #ABO-12 with occlusal views, #ABO-13 without occlusal views.



## Assembly and identification of records:

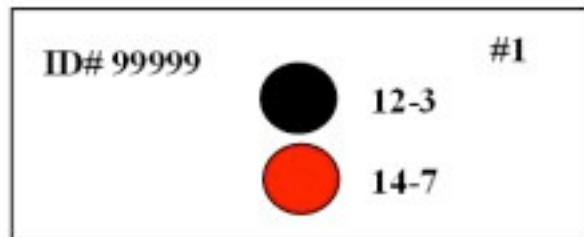
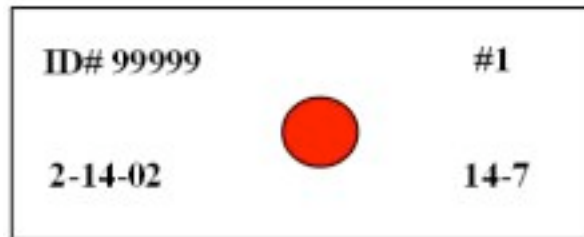
### RECORD REQUIREMENTS AND IDENTIFICATION

Case report records must be presented for each level of evaluation: Pretreatment, Interim (or Pre-Operative) if indicated, and Posttreatment.

**Posttreatment Records** must be obtained within 12 months of appliance removal.

**Interim or Pre-Operative Records** are mandatory for two-phased treatment and for surgical cases.

**All records** in the case report must be clearly marked as shown with the following information:



*Label for Composite Tracing of Pre and Post TX*

1. Examinee ID number
2. Case number (from Synopsis of Case Reports)
3. Date of record
4. Patient age to the nearest month (example: 14-7)
5. Stage of treatment identified by colored dot:

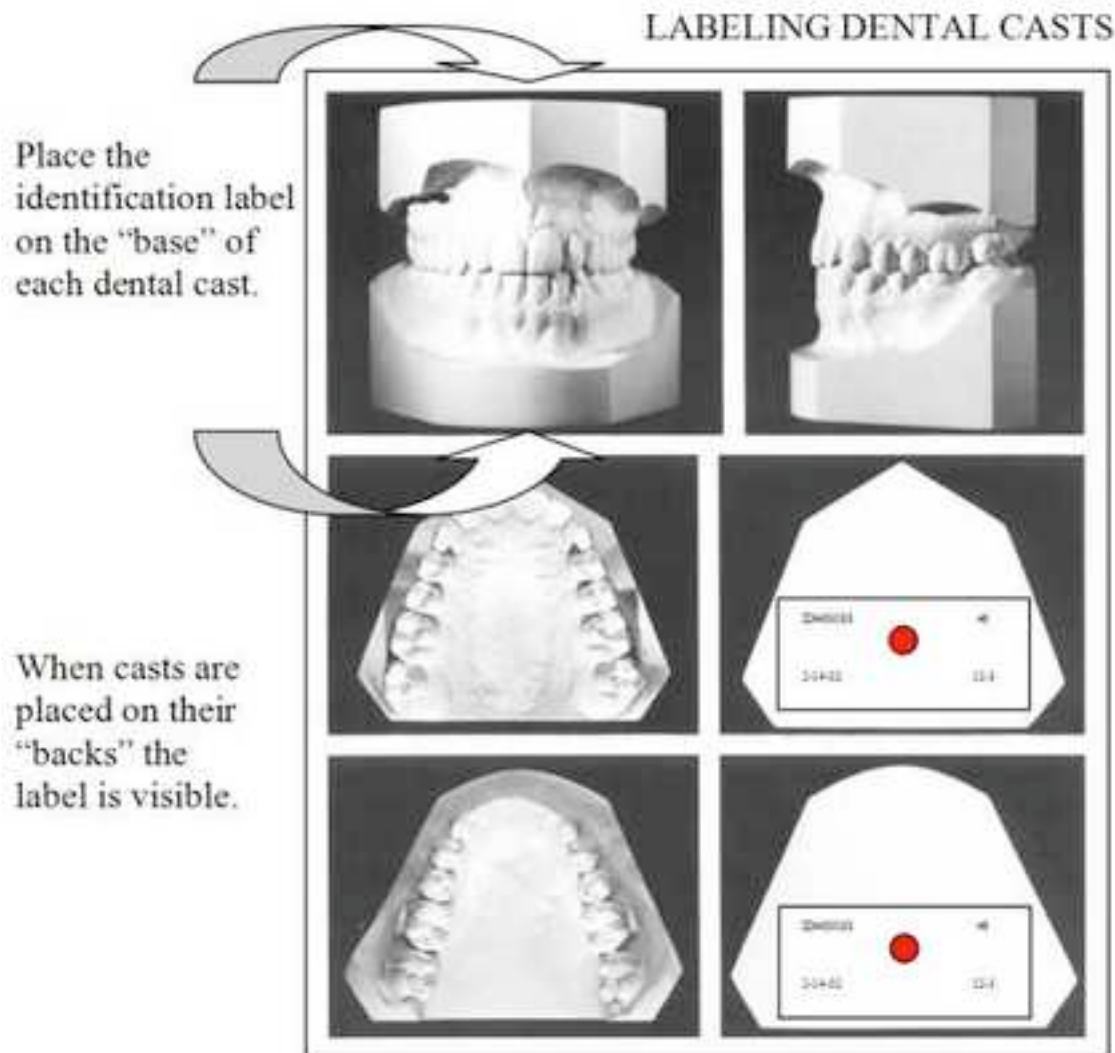
**A-- BLACK** dot Pretreatment records

**A1--BLUE** dot Interim records if indicated or Pre-Operative records

**B-- RED** dot Posttreatment records

Records to be marked for each level of evaluation include dental casts, photographic collage, all radiographs, all cephalometric tracings and composite tracings. Doctor's name, if present, must be covered from view.

Adhesive labels, not embossed tape, must be used to identify records. Color marker or color printer may be used for DOT on label.



**Posttreatment Records** must be obtained within 12 months of appliance removal.

**Interim or Pre-Operative Records** are mandatory for two-phase treatment and for surgical cases.

## Presentation of case display:

**Dental Casts** at each stage of treatment for each case; place in treatment order, then Case# order as listed on Synopsis.

**Case report notebooks**, placed in Case# order as listed on Synopsis; each will contain:

- Title page
- Written Case Report
- Patient records for each stage of treatment

**CD-ROM**, submitted only if allowable digital casts are part of the presentation according to [ABO Electronic Guidelines \(www.americanboardortho.com/professionals/clinicalexam/casereportpresentation/electronicguidelines\)](http://www.americanboardortho.com/professionals/clinicalexam/casereportpresentation/electronicguidelines). Place CD-ROM at left end of your presentation.

## Order of contents for each case report notebook

**Title Page**-Insert page into clear overlay on front cover of notebook.

**Written Case Report**-Insert the two-page report into two sheet protectors with report pages facing each other for full view. (Notebook will open to blank side of first page).

**Pretreatment Records (A)**-Required, **BLACK** dots

**Photographs**-Place photographs into photo mount sheet; if digital photos, follow same arrangement on an 8.5 x 11 digital print; place photo collage, photo mount or digital printout, into a sheet protector.

**Radiographs**-Insert all radiographs or digital printouts in one pocket of pocket divider.

**Ceph Tracings**-Insert cephalometric tracings or digital printouts in the same pocket as the radiographs.

**Interim Records (A1)**-If needed, **BLUE** dots; use separate sheet protector and pocket divider; follow same order as (A) records.

**Posttreatment Records (B)**-Required, **RED** dots; use separate sheet protector and pocket divider; follow same order as (A) records.

**Composite Tracings**-Insert composite tracings or digital printouts into a sheet protector.

# CASE REPORT PREPARATION

## Dental Casts

Each level of evaluation for a case (set of records) requires an accurate representation of the dentition, immediate supporting structures and occlusal relationships. Dental casts should be obtained from impressions that extend far enough into the sulcus to allow accurate reproduction of all soft tissue anatomy.

## Choice Of Presentation

a) ABO cast preparation should be trimmed in maximum intercuspation or in the intercuspal position. Documentation of a significant difference between the intercuspal and centric relation should be provided; a dimensionally stable bite registration is preferred. Second molars should be fully erupted and in their final position on the posttreatment casts.

b) Casts on an adjustable articulator in may be presented. Sufficient articulators must be provided to allow ease of examiner observation, with a minimum of one articulator per case report.

c) Digital casts - Digital casts submitted in a computer format are acceptable for pre-treatment casts only. See [Electronic Guidelines](#)

## Cast Alterations

Trimming or carving on the anatomical portion of the dental casts should be limited to the removal of bubbles and effects. Alteration of tooth anatomy is considered records falsification. A fixed retainer may be in place when posttreatment casts are made. After the casts are prepared, casts should be smoothed and polished in such a manner that tooth and soft tissue detail is not destroyed.

## Identification Of Dental Casts

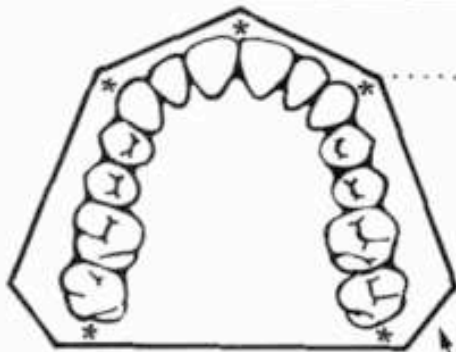
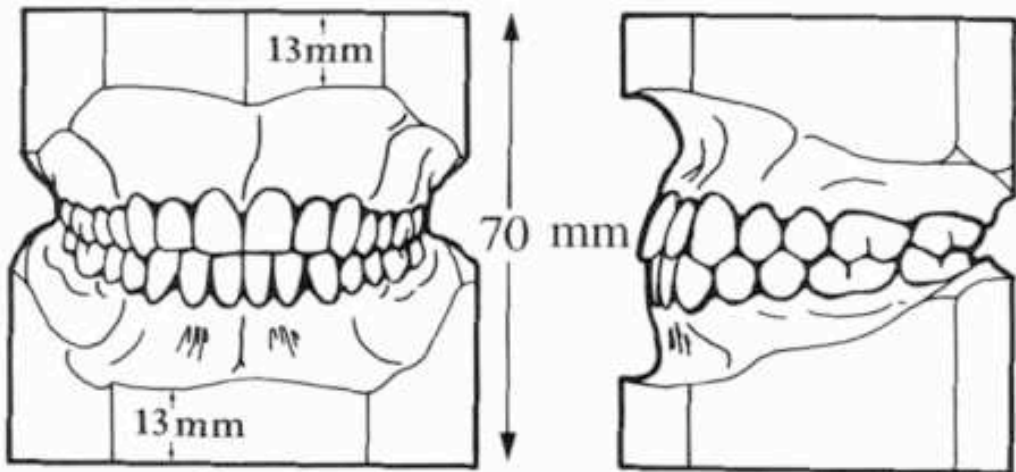
Each dental cast (maxillary and mandibular) must be individually identified with the appropriate labeling.

ABO trimmed casts are identified on the "backs" as described in [Record Requirements and Identification](#).

Articulated casts are identified with labels placed either on an individual articulator for a set of casts or on the posterior surface of the mounting stone of each cast.

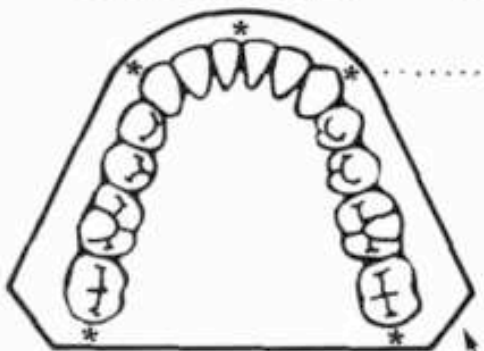
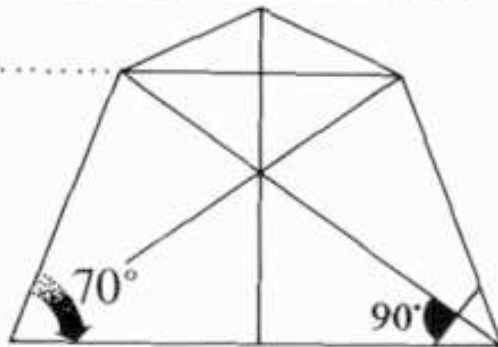
**DENTAL CAST GUIDE**

These diagrams serve as a guide to cast preparation.



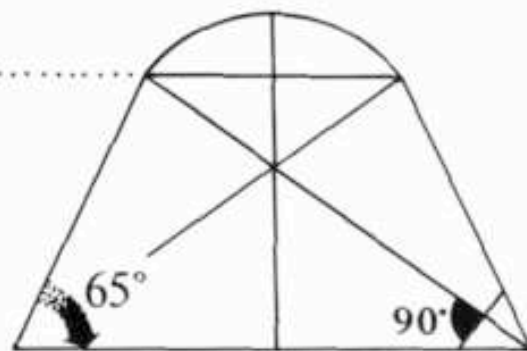
**Maxilla**

13mm



**Mandible**

13mm



# CASE REPORT PREPARATION

## Written Case Report

The Written Case Report is included in the case report notebook assembly and is available on this website for download. The ABO requires a specific format and sequence for the examinee's discussion of the presented case. It contains twenty-six sections which cannot be altered and must be limited to the equivalent of two typewritten pages.

The number of lines for any particular discussion section (e.g. DIAGNOSIS - Skeletal, DIAGNOSIS - Dental) may be increased or decreased as needed. In other words, every discussion section may be tailored to the needs of the specific case presentation to provide a succinct yet thorough written description of diagnosis, treatment planning and execution of therapy.

Each case report must include:

### **Summary of Records and Treatment Dates -**

Calculate and record Months to Final Records as the number of months between Completed TX Date (appliance removal) and B-Records Date. Note that Posttreatment (B) Records must be obtained within 12 months of appliance removal for the Board's acceptance of your case.

### **History and Etiology**

**Diagnosis** - include a brief description of the nature and extent of the anomalies for skeletal and dental and/or facial problems. Examinee may comment on the points used to record the arch widths on the Case Management Form.

**Treatment Plan** - include your diagnostic analysis and reason for choosing a particular treatment plan, extraction or non-extraction, appliances used, anchorage considerations, type of retention, supplemental therapy and prognosis.

### **Specific Objectives of Treatment for:**

- a. Maxilla
- b. Mandible
- c. Maxillary dentition
- d. Mandibular dentition
- e. Facial Esthetics

**Appliances and Treatment Progress** - include a description of appliances used and of the actual treatment, response to treatment and any complications. Do not record what was done at each visit.

**Results Achieved** - refer to the objectives stated for the maxilla, mandible, maxillary dentition, etc., and confirm that the objectives were reached or explain why an objective was not realized.

**Retention** - describe appliances and supplementary procedures.

**Final Evaluation** - include all pertinent observations and prognosis for stability. Describe posttreatment changes. State what you learned about your specific diagnosis and treatment of the case.

*All Case Report forms and worksheets can be downloaded at  
[Case Report Worksheets, Forms and Instructions](#)*

<http://www.americanboardortho.com/professionals/clinicalexam/casereportpresentation/download.aspx>

[Written Case Report \(doc\)](#)

[Written Case Report Instructions \(pdf\)](#)

## Photographs

### **PHOTOGRAPHS - FACIAL**

The facial photograph requirement for each case report is one (1) profile photograph, one (1) frontal photograph, and one (1) smiling photograph. The Board prefers that photographs be taken with relaxed lips; however, views with lips lightly touching are also acceptable. Supplemental photographs may be included and are encouraged. Glamour photos are not necessary.

Facial photographs are required for the A, A1 and B levels of evaluation. They should be oriented to Frankfort horizontal. These photographs must fit in a collage photomount or, if computer generated, the photographs do not need to be placed in a photomount, but must be in the same arrangement. They should be as close to one-quarter life size as possible, from top of the head to the bottom of the chin. One can determine if the photographs are one-quarter life size by measuring on the patient the vertical distance from



the hairline to the inferior border of the chin. If, for example, this is eight inches, the same dimension on the photograph should be two inches or one-fourth the actual measurement.

Photographs may be printed in either black and white or color. The photographic method that is used on the A series of photographs should be repeated on the A1 and B photographs.

The requirements for computer-generated images are found under the [Electronic Guidelines](#). The examinee is reminded that all records are legal documents and must not be altered.

### ***Facial Photograph Requirements***

1. Quality standardized facial photographic prints either in black and white or color.
2. Patient's head oriented accurately in all three planes of space and on Frankfort horizontal.
3. One (1) lateral view, facing to the right.
4. Two (2) anterior views - one with lips relaxed and one smiling.
5. The photographic method used in A Records should be repeated in the A1 and B Records. Soft tissue areas of concern and of diagnostic value should be recorded in these photos.
6. Background free of distractions.
7. Quality lighting revealing facial contours, with no shadows in the background.
8. Ears exposed for purpose of orientation.
9. Eyes open and looking straight ahead. Glasses removed.
10. Photographs should be approximately one-quarter life size.
11. If not computer-generated, photographs must fit in the collage photomounts.

### **EXAMPLE FACIAL PHOTOGRAPHS**



## **PHOTOGRAPHS - INTRAORAL**

The minimum intraoral photographic requirement for each level of evaluation is one (1) frontal view, one (1) right lateral view and one (1) left lateral view with the teeth in maximum intercuspation and in color. Photographs of maxillary and mandibular occlusal views are recommended. Beginning with the clinical examinations of February 2010, maxillary and mandibular occlusal views are mandatory in each photographic series if treatment was initiated on or after March 1, 2008.

The intraoral photographs are required for the A, A1 and B Records. They should be oriented to the occlusal plane. The color prints should be as close as possible to a 1:1 ratio with the patient's own teeth. If mirror images are used, print them in reverse and mount them if you are looking at the patient. These photographs must fit in a collage photomount or, if computer generated, the photographs do not need to be placed in a photomount, but must be in the same arrangement. Slides are not permitted.

The requirements for computer-generated images are found under [Electronic Guidelines](#). The examinee is reminded that all records are legal documents and must not be altered.

### ***Intraoral Photograph Requirements***

1. Quality standardized intraoral prints in color.
2. Patient's occlusal plane parallel with the top and bottom of the mount.
3. One (1) frontal view in maximum intercuspation.
4. Two (2) lateral views (right and left).
5. Maxillary and mandibular occlusal views are recommended for 2009; mandatory for 2010 if treatment was initiated on or after March 1, 2008.
6. Free of distractions (i.e., cheek retractors, labels and fingers).
7. Lighting should reveal anatomical contours with minimal shadows.
8. Use two (2) cheek retractors.
9. Free of saliva and/or bubbles.
10. Clean dentition.
11. Photographs should be as close to a 1:1 relationship as possible.
12. If not computer-generated, photographs must fit in the collage photomounts.

## EXAMPLE INTRAORAL PHOTOGRAPHS



## Radiographs

### **Periapical or Panoramic**

Periapical and panoramic radiographs must be of diagnostic quality for each level of evaluation. If a panoramic radiograph is submitted, periapical radiographs of the maxillary and mandibular incisors are highly recommended. All films must be oriented correctly with right and left sides clearly marked. The name of the doctor should be covered with tape. The patient's name and date should be visible. Supplemental radiographs, such as occlusal, additional periapicals or tangential radiographs may be included as needed in the case report. Digital requirements are discussed under [Electronic Guidelines](#).

For patients 18 years of age and over, as well as for younger patients with signs/symptoms of periodontal involvement, and where pretreatment records were produced on or after March 1, 2007, the examinee must document that the patient's periodontal status was amenable to orthodontic treatment prior to initiating care. Under these conditions, the examinee will utilize one or more of the following methodologies:

1. Full mouth periodontal probing recorded by the examinee prior to initiating orthodontic therapy
2. Written documentation of pretreatment periodontal status, including a full periodontal charting, received from a periodontist, general or pediatric dentist
3. Pretreatment panoramic, vertical or conventional bitewings, and maxillary and mandibular periapical radiographs
4. Full mouth series of periapical and bitewing radiographs

Post-treatment documentation of similar format must be submitted for comparison of the patient's initial and final periodontal status.

## Cephalograms

Cephalograms must show as much anatomy as possible, especially in vital landmark areas, for each level of evaluation. They should be properly standardized, oriented and processed. The patient's name and date should be visible. Tape over the doctor's name if it appears on the radiograph. The soft tissue profile should be visible on lateral cephalograms. Posterior-Anterior (PA) or sub-mental vertex cephalograms may be included if pertinent to the case. Digital requirements are discussed under [Electronic Guidelines](#).

## ABO Policy Statement Regarding Lateral Head Film Radiographs

With the advent of three dimensional technologies, the inherent inaccuracies of traditional radiographs have come into question. While no person has ever believed that cephalometric data collection was an exact science, orthodontics has continuously placed a high degree of importance on superimpositions as an accurate way of:

1. Determining changes in growth and development and treatment.
2. Ascertaining the amount and direction of tooth movement.

Three dimensional volumetric assessments produce exact measurements.<sup>1. 2.</sup> When this type of data is compared to traditional cephalometric information (analogue and digital technology), indiscriminant errors in the actual location of vital landmarks necessary to establish superimpositions are found.

In spite of this problem, the Board encourages the continued use of "like" cephalograms (i.e. cephalograms produced on the same machine), and expects examinees to produce high quality cephalometric radiographs using the ABO measurements to determine diagnostic approaches for patient care and to reveal the final treatment results. Use of these accurately traced cephalograms will give the examinee very valuable information about tooth movement, amount and direction of growth, or lack thereof.

While the Board recognizes that magnification errors will always be present unless three dimensional volumetric radiographs are utilized, it does not dismiss the examinee's responsibility:

- A. to inform the Board the conditions under which the initial, progress, and final cephalometric radiographs were obtained.
- B. to create radiographic superimpositions demonstrating the highest degree of accuracy possible

1. Adams G.L. GSA, Miller A.J., Harrell Jr. W.E., and Hatcher D.C. Comparison between traditional 2-dimensional cephalometry and a 3-dimensional approach on human dry skulls. Am J Orthod Dentofacial Orthop 2004; 126:397-409
2. Harrell WE, Jr, Hatcher DC, Bolt RL. In search of anatomic truth: 3-dimensional digital modeling and the future of orthodontics. Am J Orthod Dentofacial Orthop 2002;122:325-330.

## Tracings

### CEPHALOMETRIC TRACINGS

Pretreatment tracings must be in **BLACK**.

Interim tracings must be in **BLUE**.

Posttreatment tracings must be in **RED**.

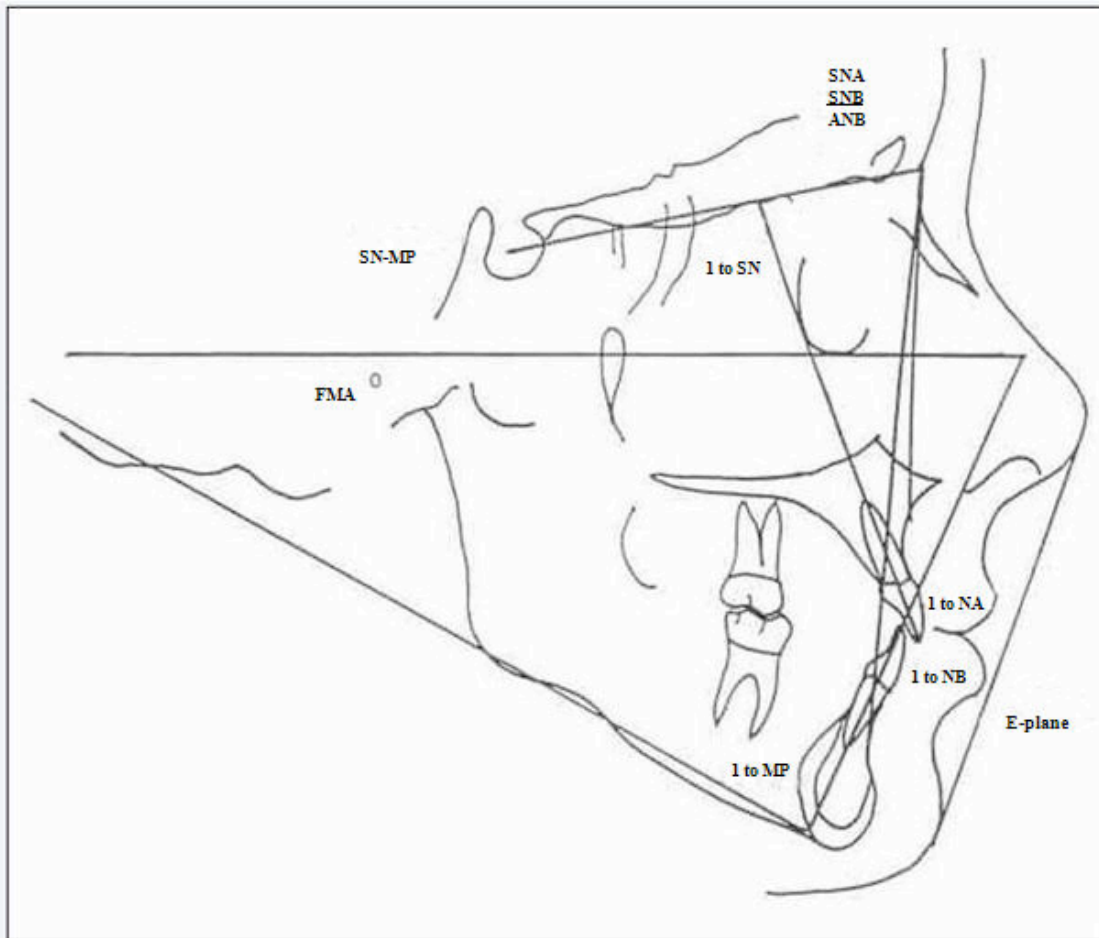
Cephalograms must be accurately traced **by the examinee** using a small diameter (0.5 mm) pencil or pen for manual tracing, or using the computer's drawing tool to trace the anatomical outline of a digital radiograph.

Computer generated tracings are acceptable if prepared as instructed in the [Electronic Guidelines](#). Templates may be used to trace the tooth outlines.

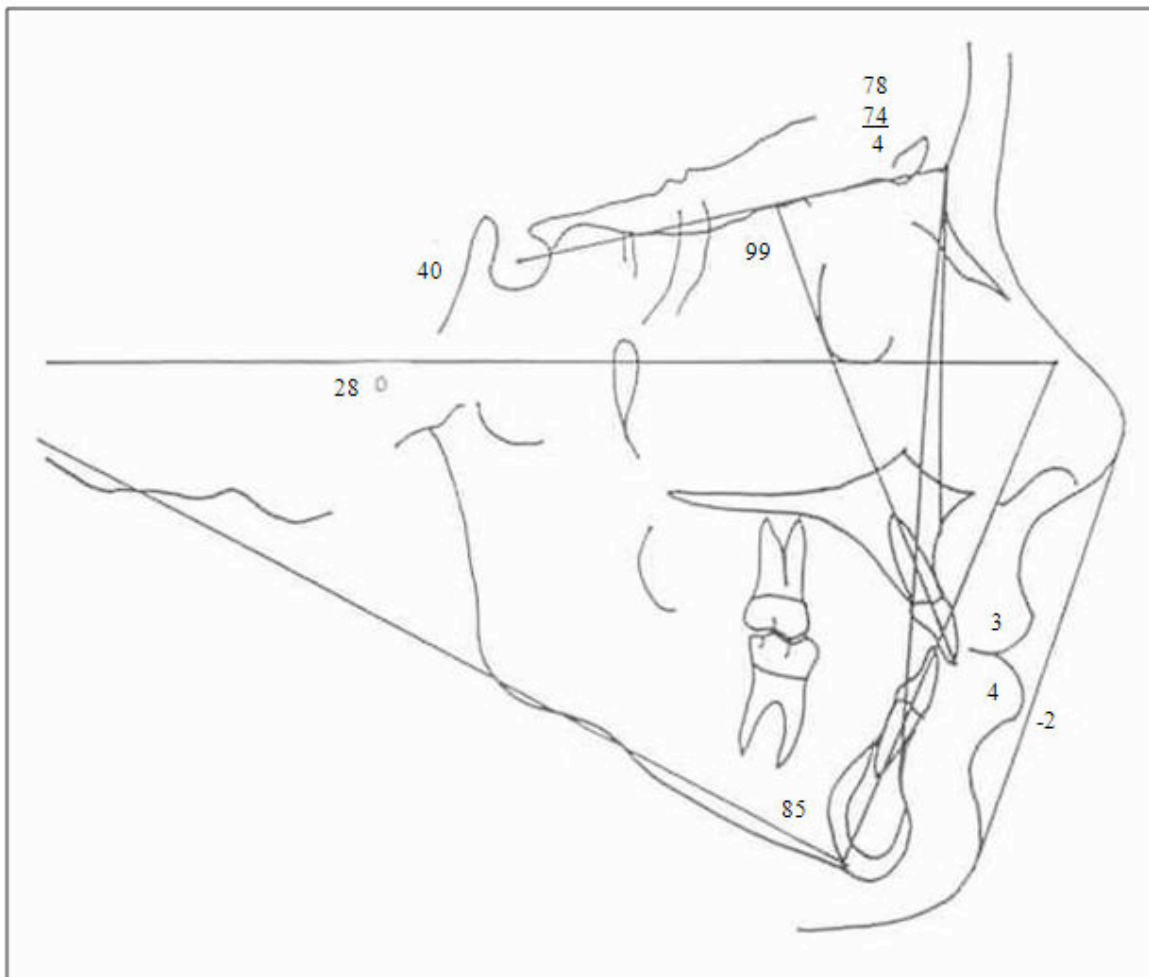
Anatomical structures should be identified accurately in preparation for the marking of landmarks and the drawing of reference lines. All measurements must be recorded on the Case Management Form and **on the tracing** (see examples). The soft tissue outline of the facial profile is required for each tracing.

Note: The Frankfort horizontal (FH) line that is drawn on the original (A) tracing should be transferred to the A1 and B tracings by superimposing on the cranial base and transferring the original Frankfort horizontal.

EXAMPLE 1  
CEPHALOMETRIC TRACINGS



## EXAMPLE 2 CEPHALOMETRIC TRACINGS



### **COMPOSITE TRACINGS**

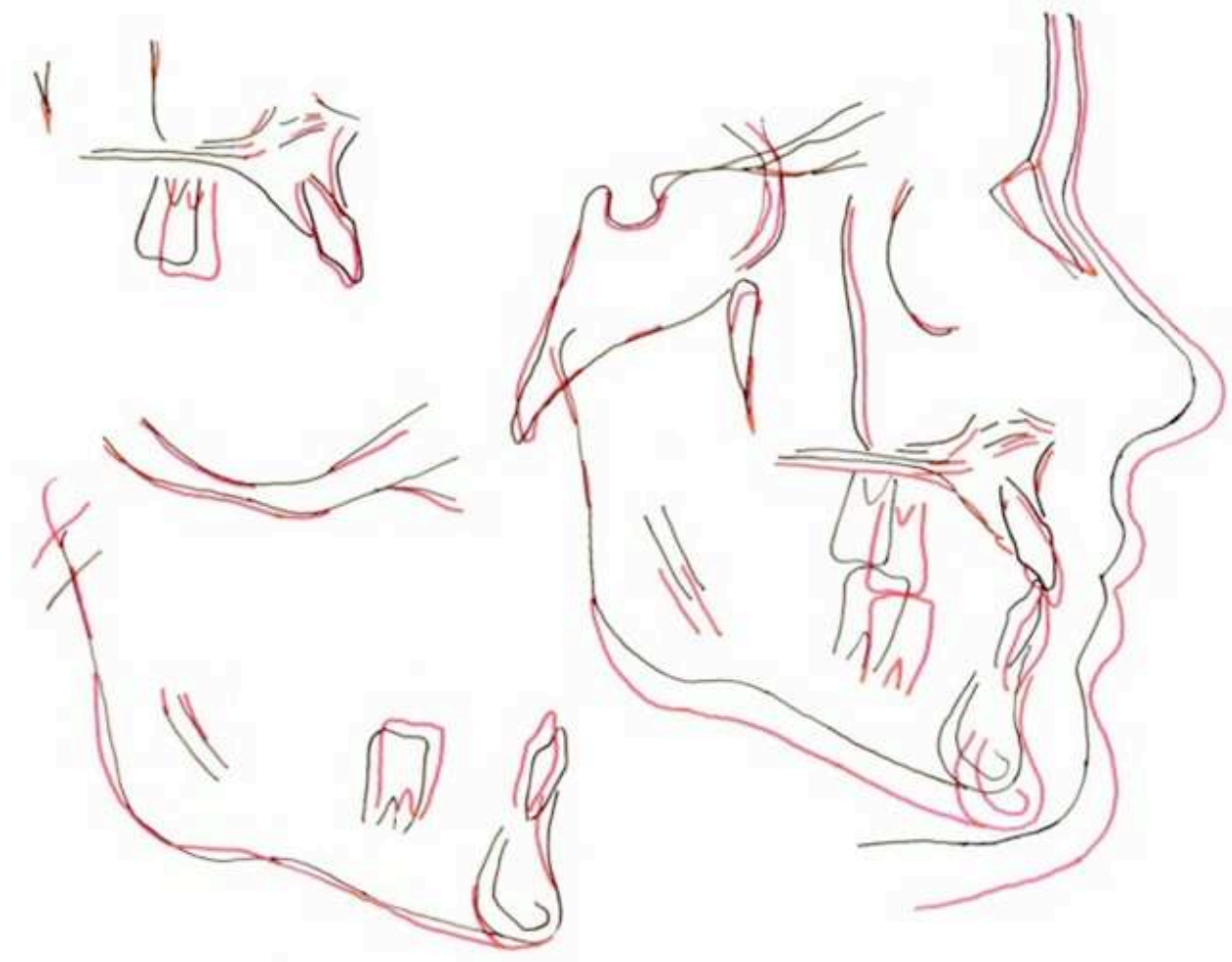
A minimum of three (3) composite tracings are required comparing cephalometric tracings:

1. Craniofacial
2. Maxillary
3. Mandibular

The three composites are manually traced by the examinee from the individual tracings of the cephalograms. A small diameter (0.5 mm) pencil or pen should be used. The three composites may be on three separate sheets of tracing acetate or they may all be arranged on one sheet. When there is

an Interim set of records, separate composites of A and B tracings, A and A1 tracings and A1 and B tracings are required. Digital superimpositions are acceptable if prepared as instructed in the [Electronic Guidelines](#).

### EXAMPLE OF COMPOSITE TRACINGS



The following procedure for composite tracings is required: 1. 2. 3.

1. **Craniofacial Composite** - register on Sella with the best fit on the anterior cranial base bony structures (Planum Sphenoidum, Cribriform Plate, Greater Wings of the Sphenoid) to assess overall growth and treatment changes.

2. **Maxillary Composite** - register on the lingual curvature of the palate and the best fit on the maxillary bony structures to assess maxillary tooth movement.



3. **Mandibular Composite** - register on the internal cortical outline of the symphysis with the best fit on the mandibular canal to assess mandibular tooth movement and incremental growth of the mandible.

Examinees must use the same colors for the composite tracings that are used for the cephalometric tracings. Pretreatment tracings must be in **BLACK**. Interim tracings must be in **BLUE**. Posttreatment tracings must be in **RED**.

1. Baumrind S, Miller D, Malthen R. The reliability of head film measurements 3. Tracing superimposition. *AM J Orthod* 1976; 70:617-644.
2. Doppel D, Damon W, Joondeph D, Little R. An investigation of maxillary superimposition techniques using metallic implants. *Am J Orthod Dentofac Orthop* 1994; 105:161-168.
3. Bjork A. Variations in the growth of the human mandible: longitudinal radiographic study by the implant method. *J Dent Res* 1963; 42:400-411.