Why do we do Orthodontics?

Contemporary Orthodontics
Chapter 1:
Malocclusion and Dentofacial Deformity in Contemporary Society

From the UNC Undergraduate training course

Why do we do Orthodontics?

- **Prevalence / Treatment Need**

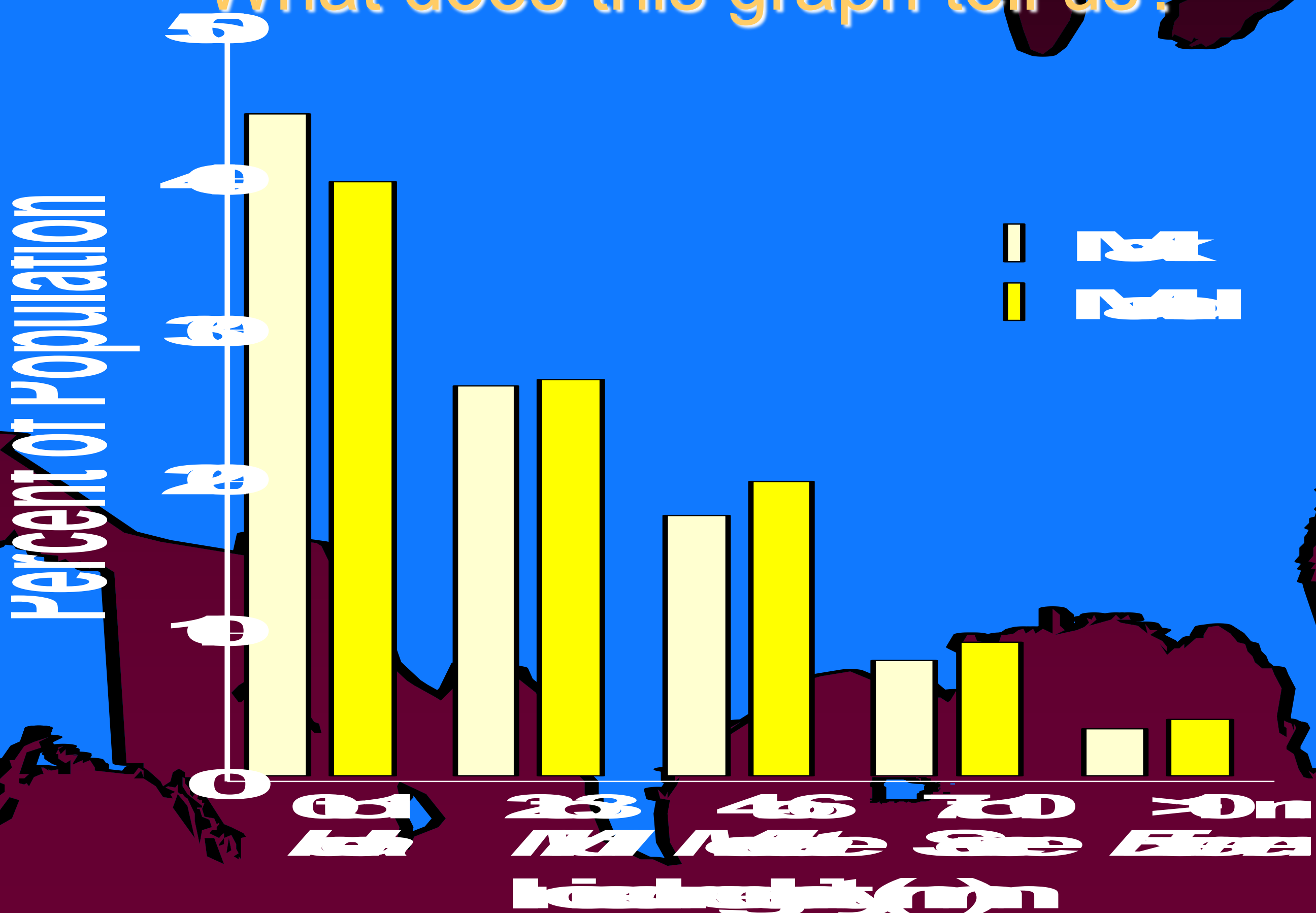
EPIDEMIOLOGIC DATA FOR MALOCCLUSION

*

Class I: Crowding

- How many people (%) have well-aligned teeth?
- How many (%) have severe crowding?

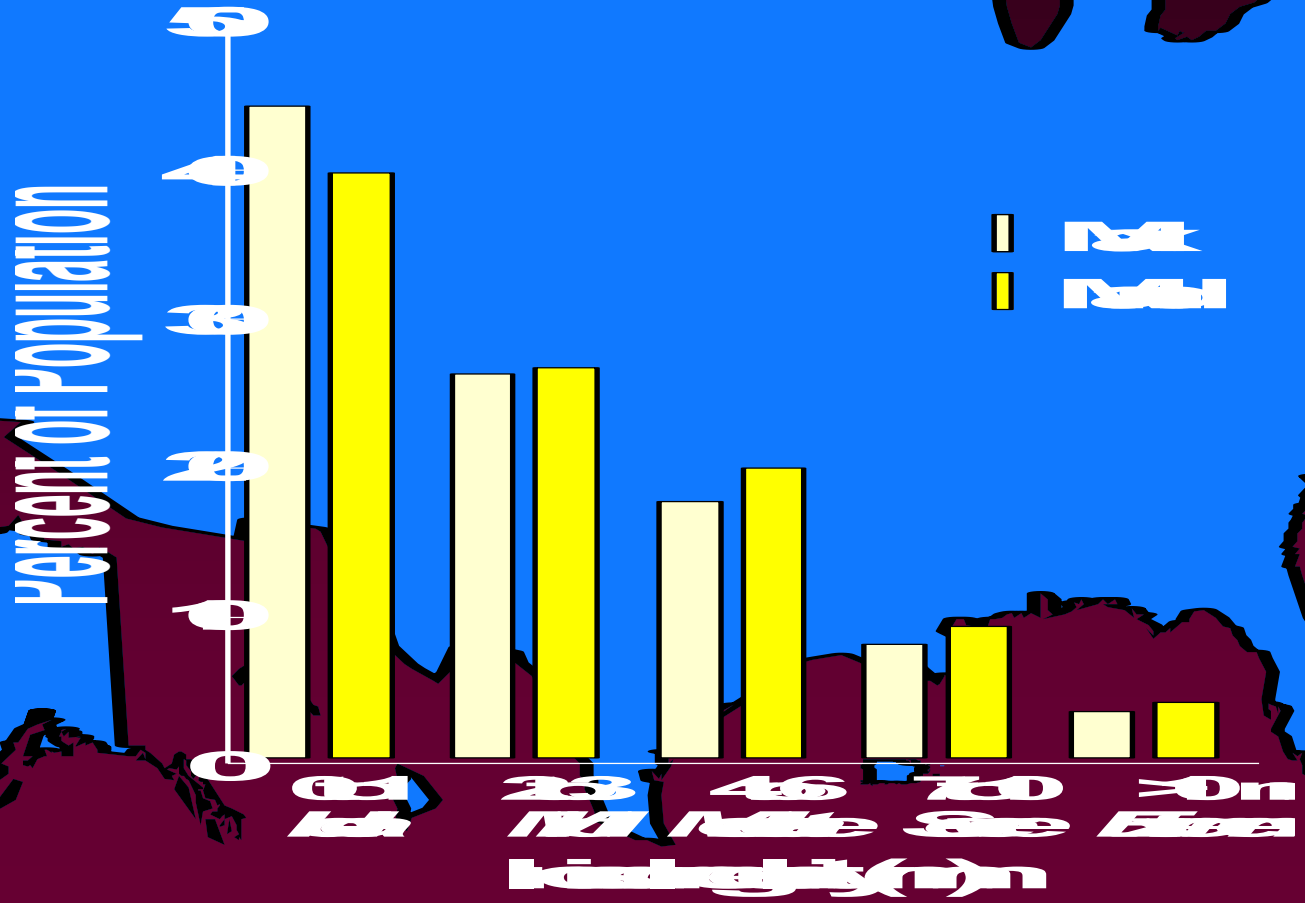
What does this graph tell us?



EPIDEMIOLOGIC DATA FOR MALOCCLUSION

Class I: Crowding

- About half the population have well-aligned incisors; 15% are so crowded that extractions probably required for treatment

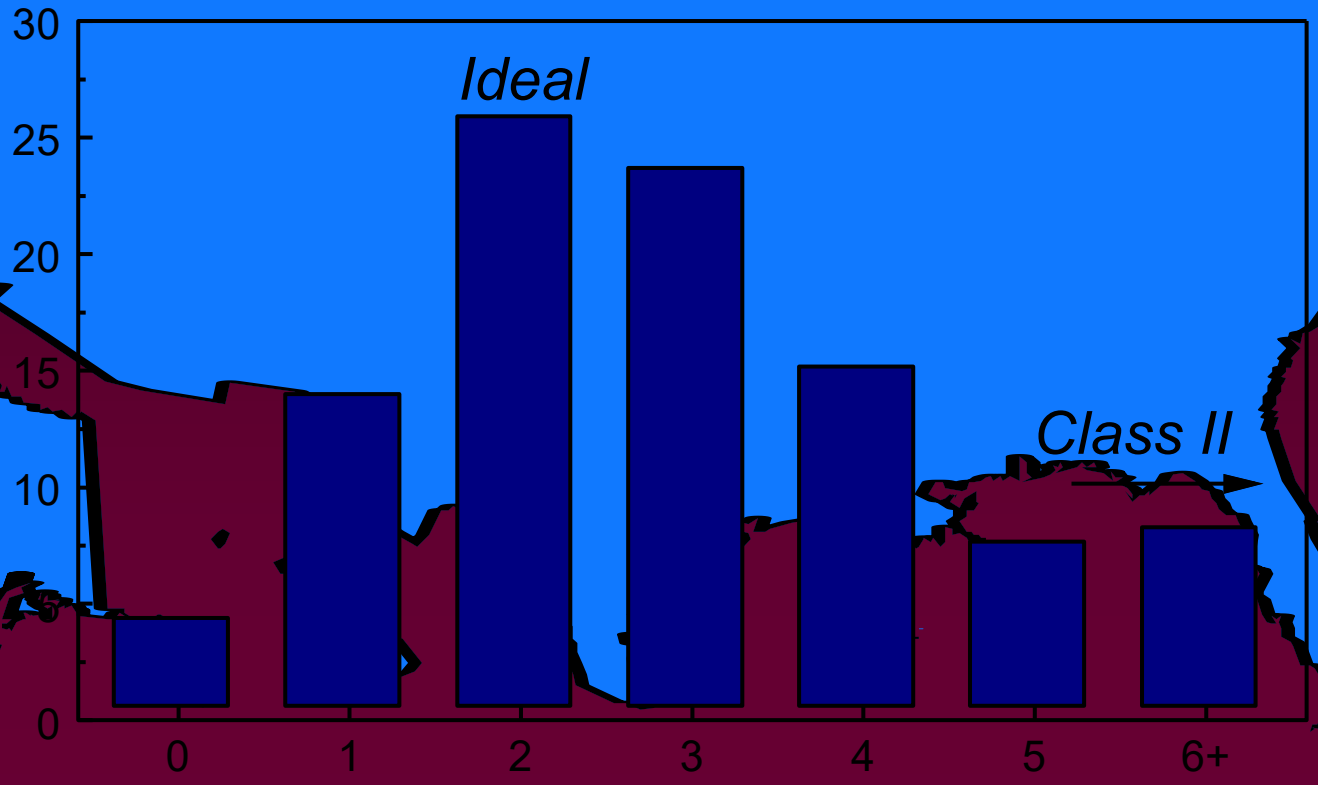


EPIDEMIOLOGIC DATA FOR MALOCCLUSION *

Class II: Overjet

- How many in our population are Class II?
- How many of those have a severe enough problem to cause problems in social interaction?

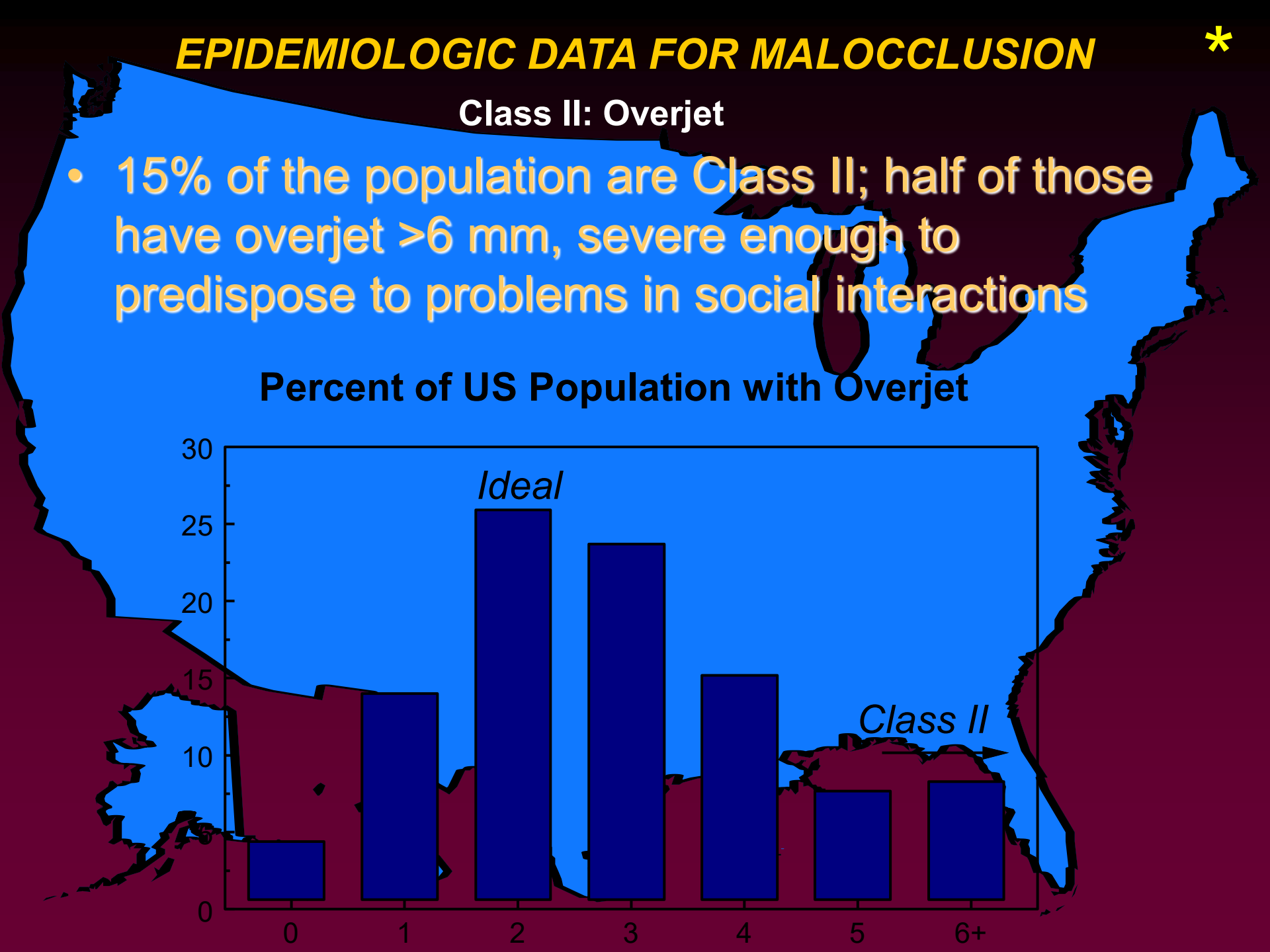
Percent of US Population with Overjet



EPIDEMIOLOGIC DATA FOR MALOCCLUSION *

Class II: Overjet

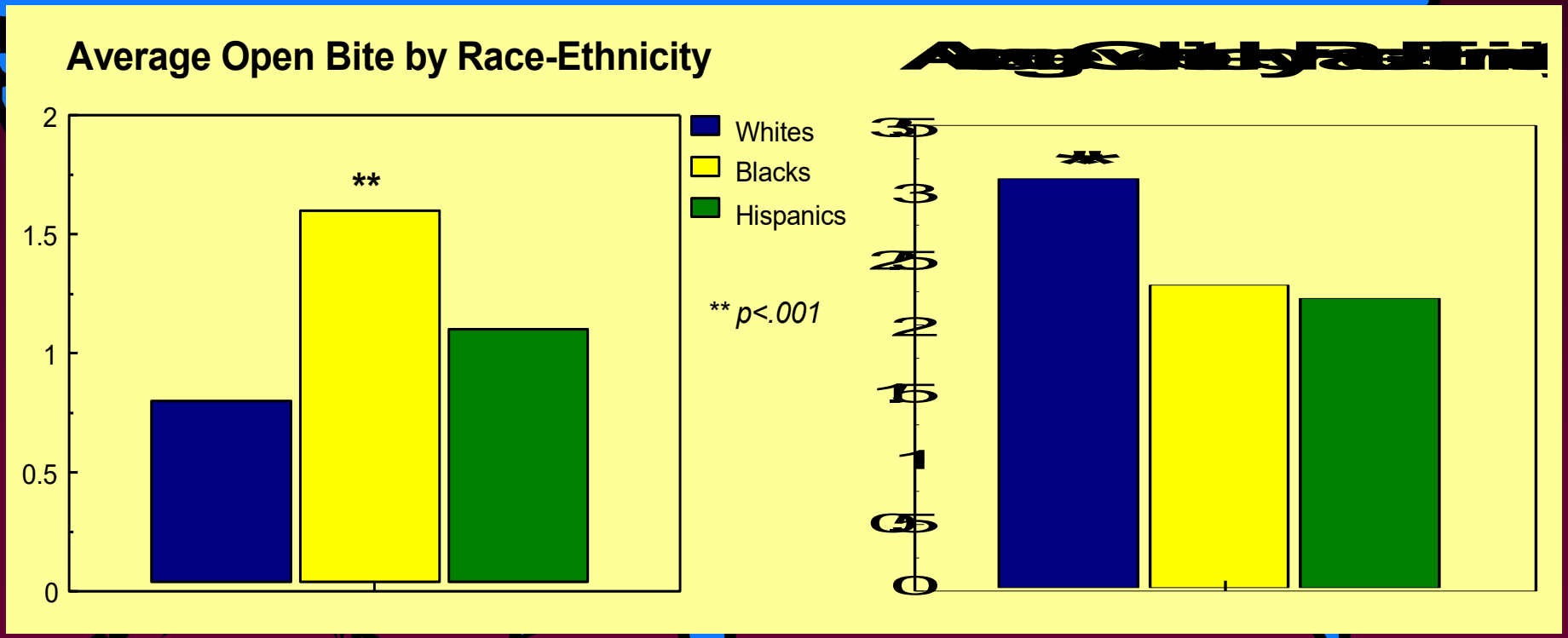
- 15% of the population are Class II; half of those have overjet >6 mm, severe enough to predispose to problems in social interactions



EPIDEMIOLOGIC DATA FOR MALOCCLUSION

Ethnic Differences

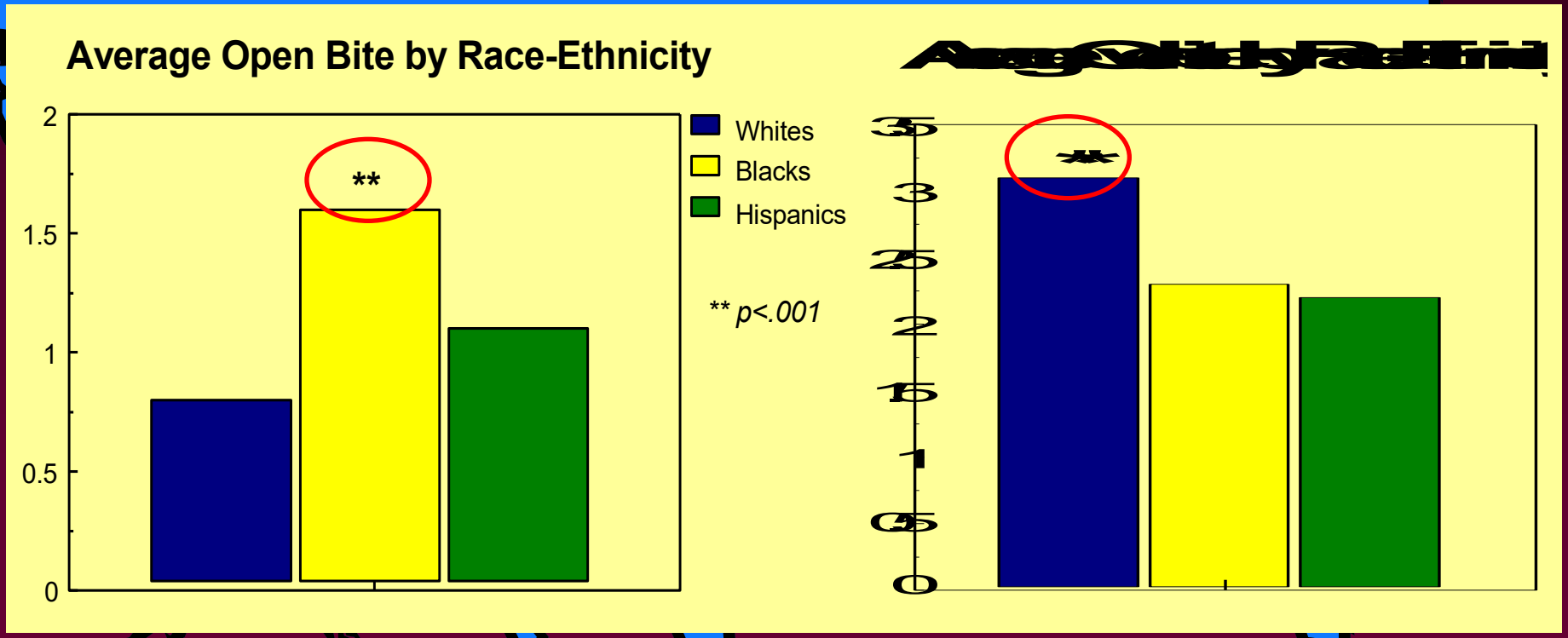
- What's the biggest racial / ethnic difference?



EPIDEMIOLOGIC DATA FOR MALOCCLUSION *

Ethnic Differences

- Racial / ethnic differences
  - open bite much more prevalent in blacks, deep bite more prevalent in whites



EPIDEMIOLOGIC DATA FOR MALOCCLUSION

Class III Ethnic Differences Overjet Reverse

- Racial / ethnic differences
  - open bite much more prevalent in blacks, deep bite more prevalent in whites
  - other differences are modest

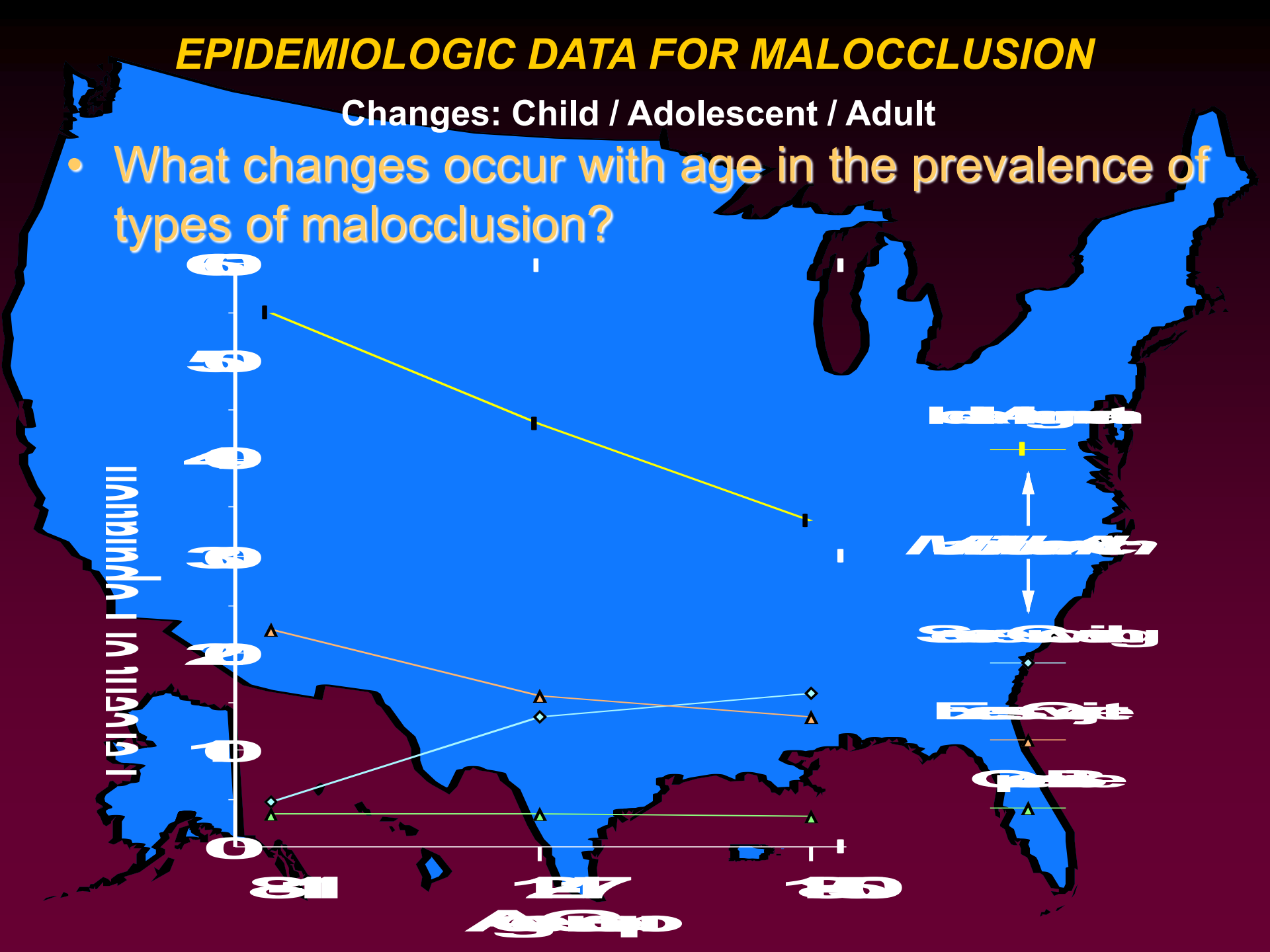
whites / blacks / Mex-Americans: Class III = 0.5%

But for Asians, Class III = up to 5%

EPIDEMIOLOGIC DATA FOR MALOCCLUSION

Changes: Child / Adolescent / Adult

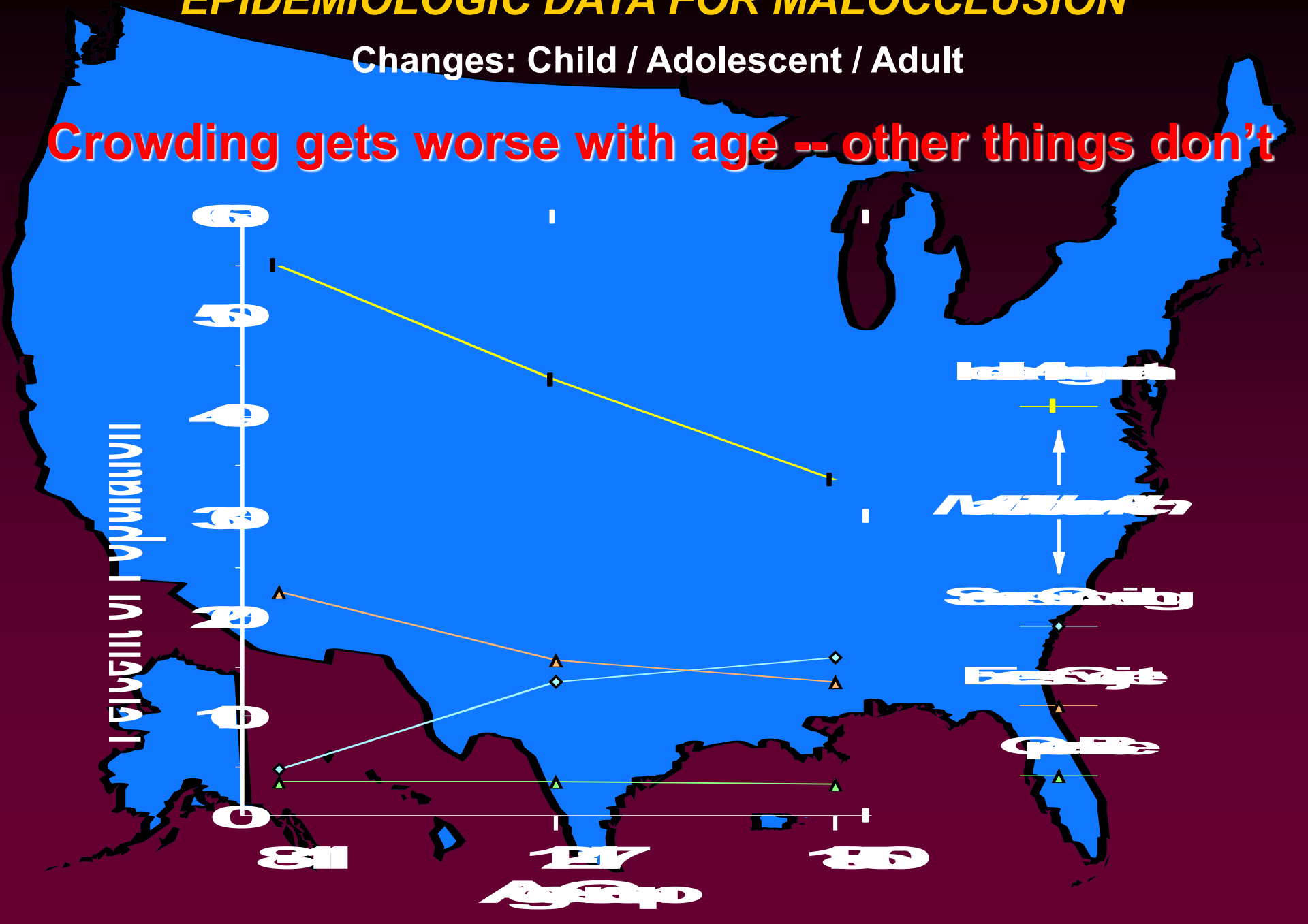
- What changes occur with age in the prevalence of types of malocclusion?



EPIDEMIOLOGIC DATA FOR MALOCCLUSION *

Changes: Child / Adolescent / Adult

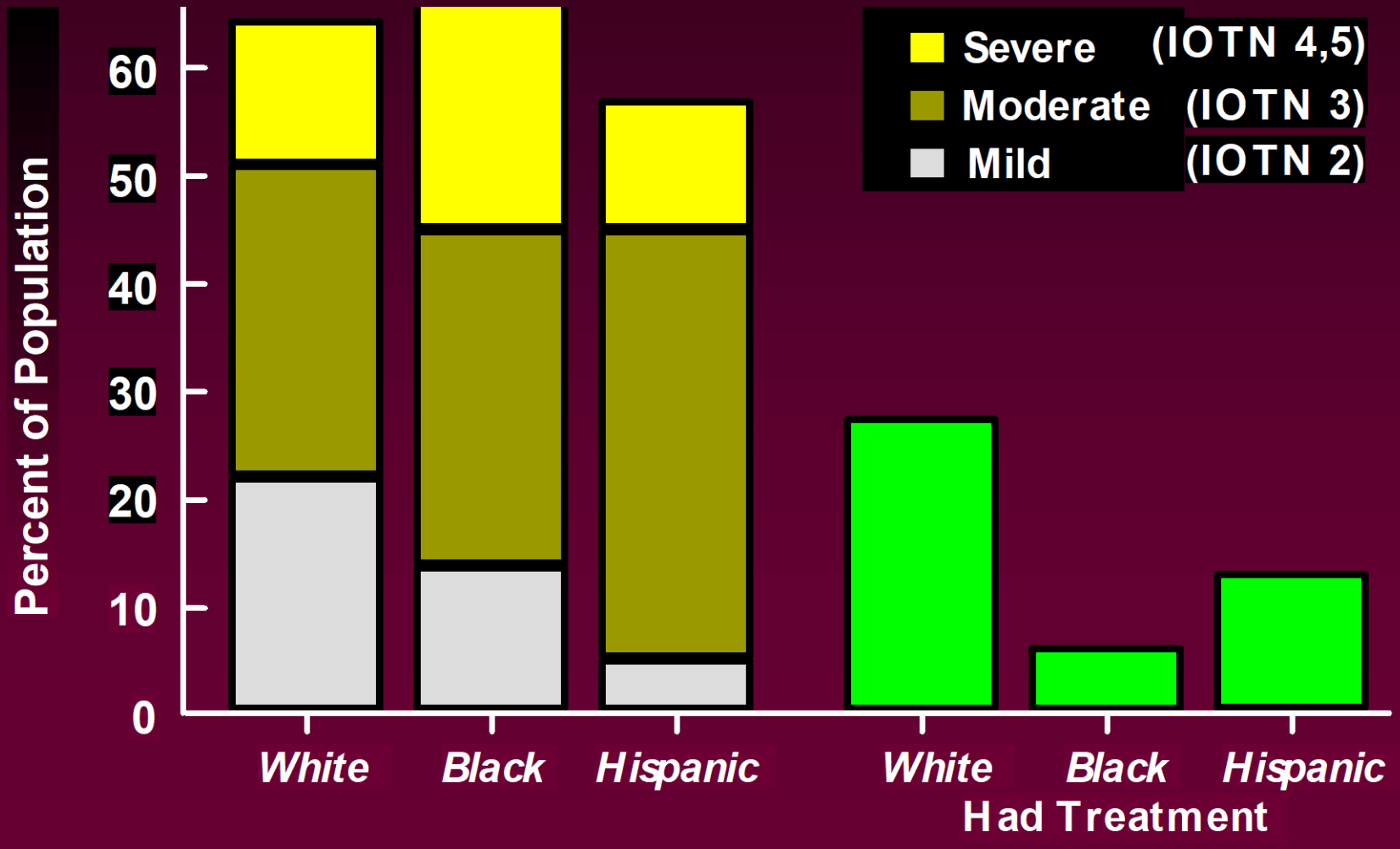
Crowding gets worse with age -- other things don't



TREATMENT NEED IN THE USA

How many people need orthodontic treatment??

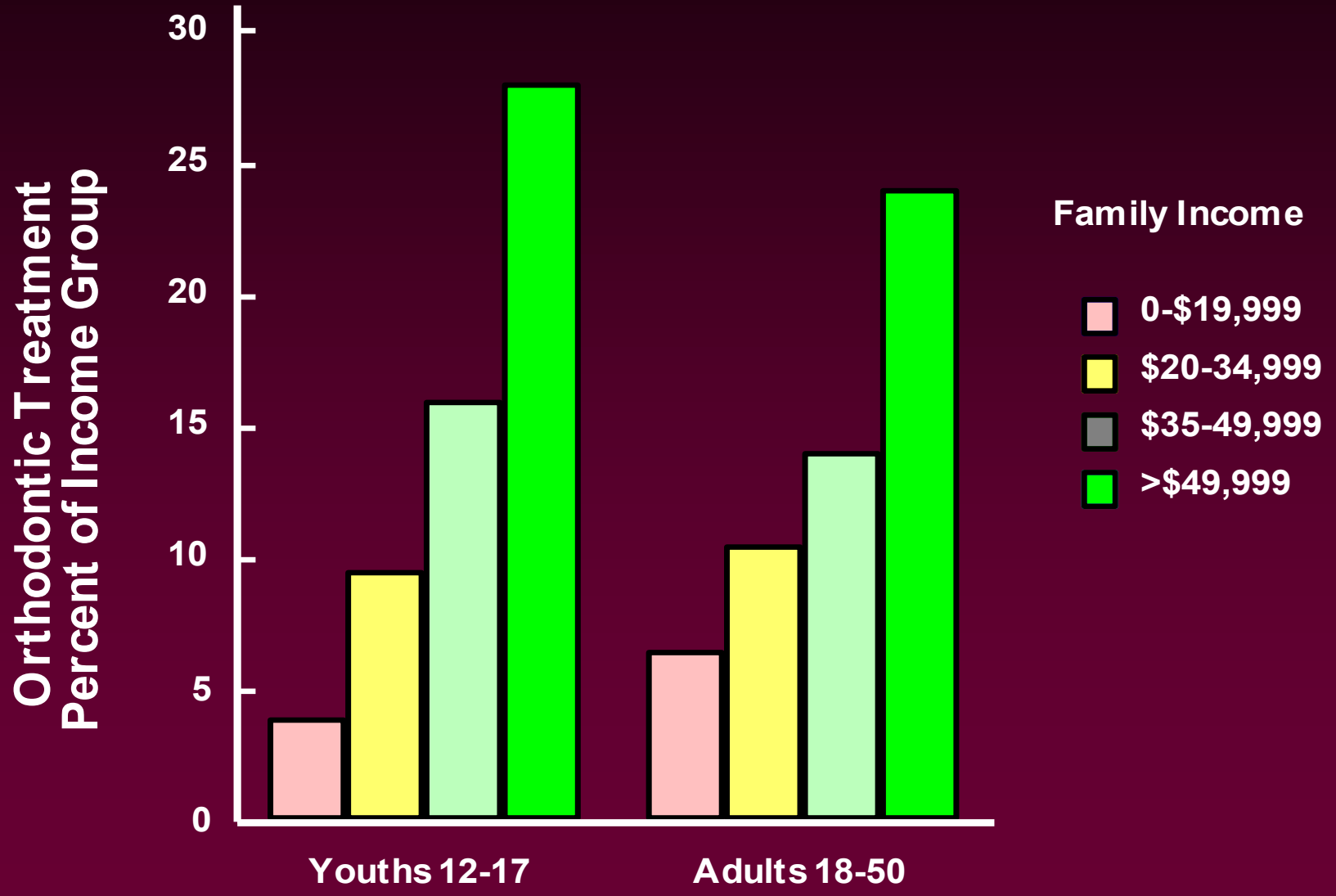
TREATMENT NEED, USA, FROM IOTN SCORES



TREATMENT NEED IN THE USA

How many people receive orthodontic treatment??

ORTHODONTIC TREATMENT BY FAMILY INCOME, USA



Why do we do Orthodontics?

- **Prevalence / Treatment Need**
- **Treatment of Crowding / Protrusion**



What problems do you see?





Jessica J. -- age 9-4

Parents' question: "Will she need to have teeth pulled to straighten them?"





Primary canines extracted last year by another dentist, to allow alignment of permanent incisors

Does that mean you have to continue with serial extraction?

Did the previous dentist fail to do something that probably he should have done?

Is she likely to require extraction of premolars eventually?

Do you need any further information?

Jessica J. -- age 9-4



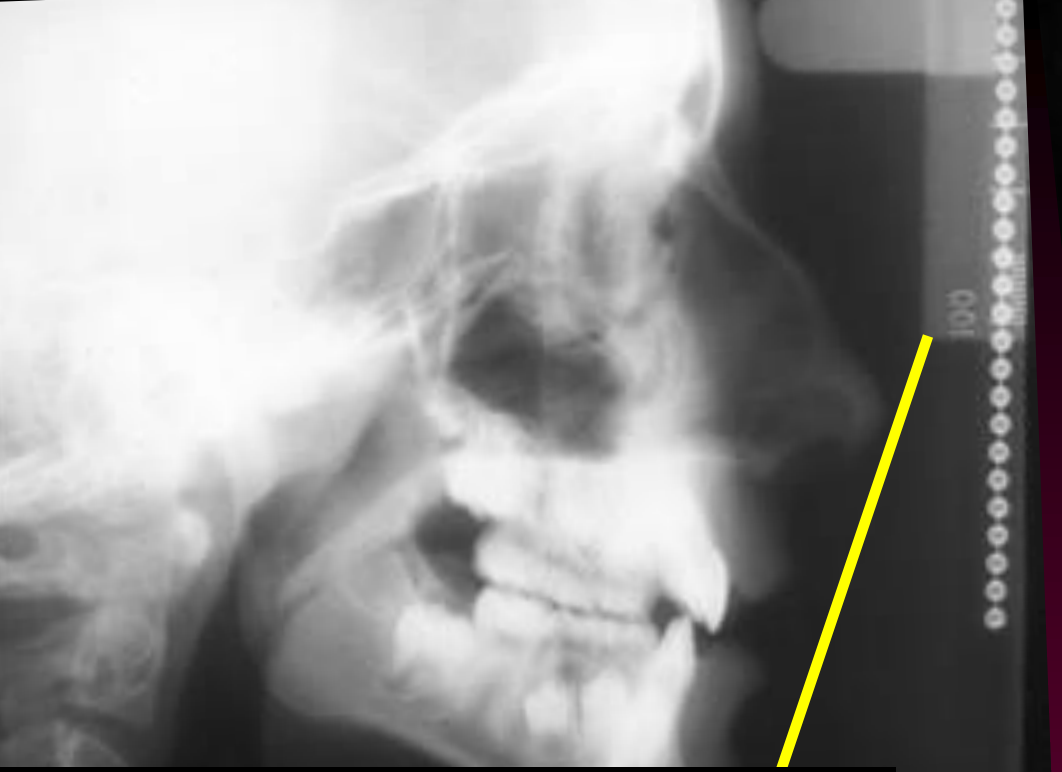
Do you <u>still</u> need any further information?

Jessica J. -- age 9-4



Jessica J. -- age 9-4



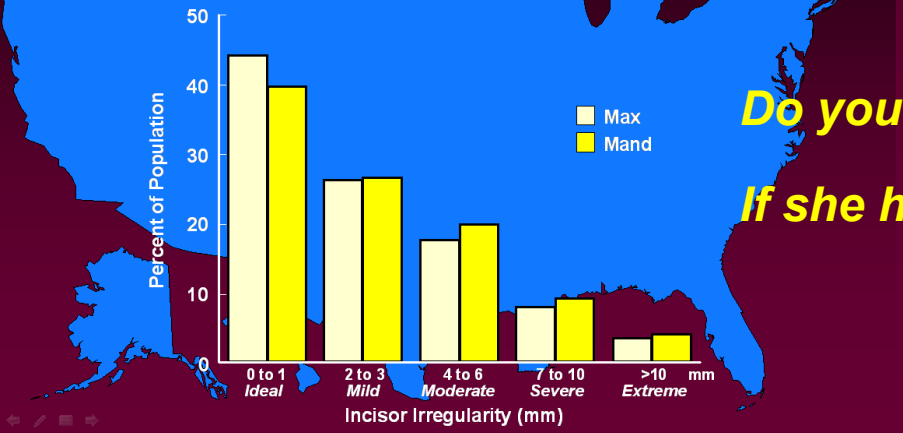




EPIDEMIOLOGIC DATA FOR MALOCCLUSION

Class I: Crowding

- About half the population have well-aligned incisors; 15% are so crowded that extractions probably required for treatment



Age 8-5 to 9-4

Do you think she will need premolar extraction?

If she has further orthodontic treatment:

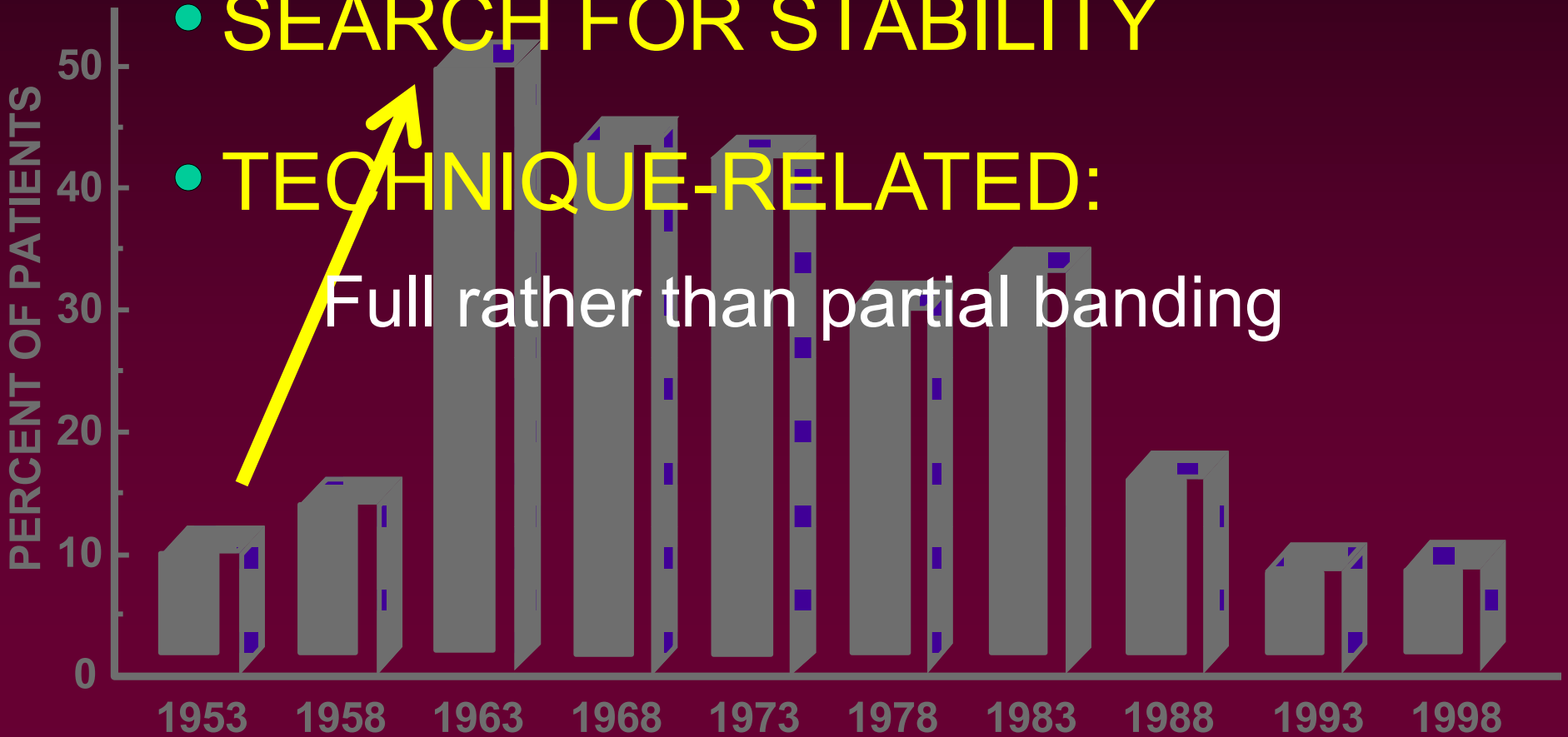
- ***when would be the best time to do it?***
- ***refer or treat yourself?***

CHANGES IN THE EXTRACTION PERCENTAGE, 1953-1998

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Why the increase in the 1960s?

- SEARCH FOR STABILITY
- TECHNIQUE-RELATED:
  - Full rather than partial banding

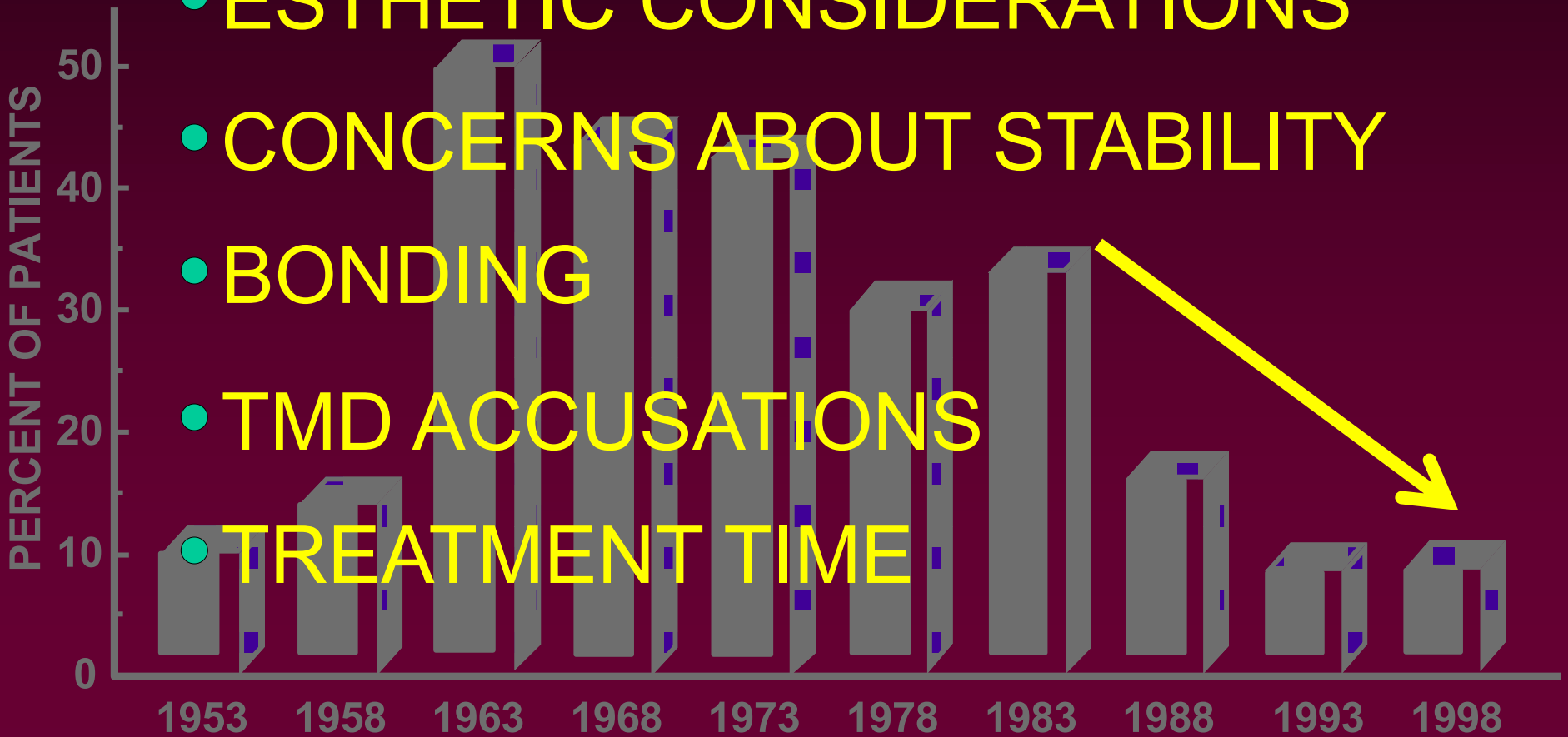


CHANGES IN THE EXTRACTION PERCENTAGE, 1953-1998

*

Why the decrease more recently?

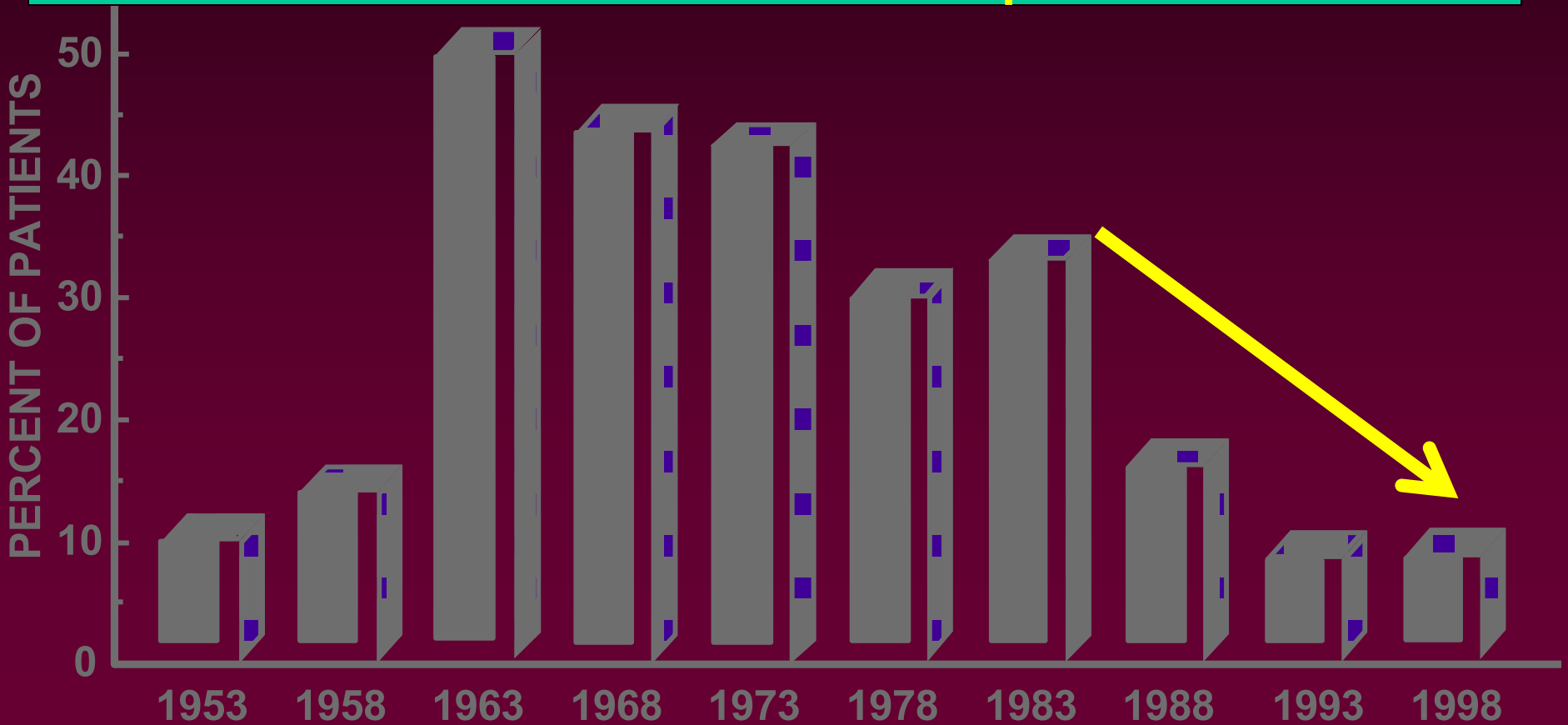
- ESTHETIC CONSIDERATIONS
- CONCERNS ABOUT STABILITY
- BONDING
- TMD ACCUSATIONS
- TREATMENT TIME



CHANGES IN THE EXTRACTION PERCENTAGE, 1953-1998

Why the decrease more recently?

McNamara, AAO Early Treatment Conference, Feb. 2002:
12-15% of Class I crowded cases had premolar extraction



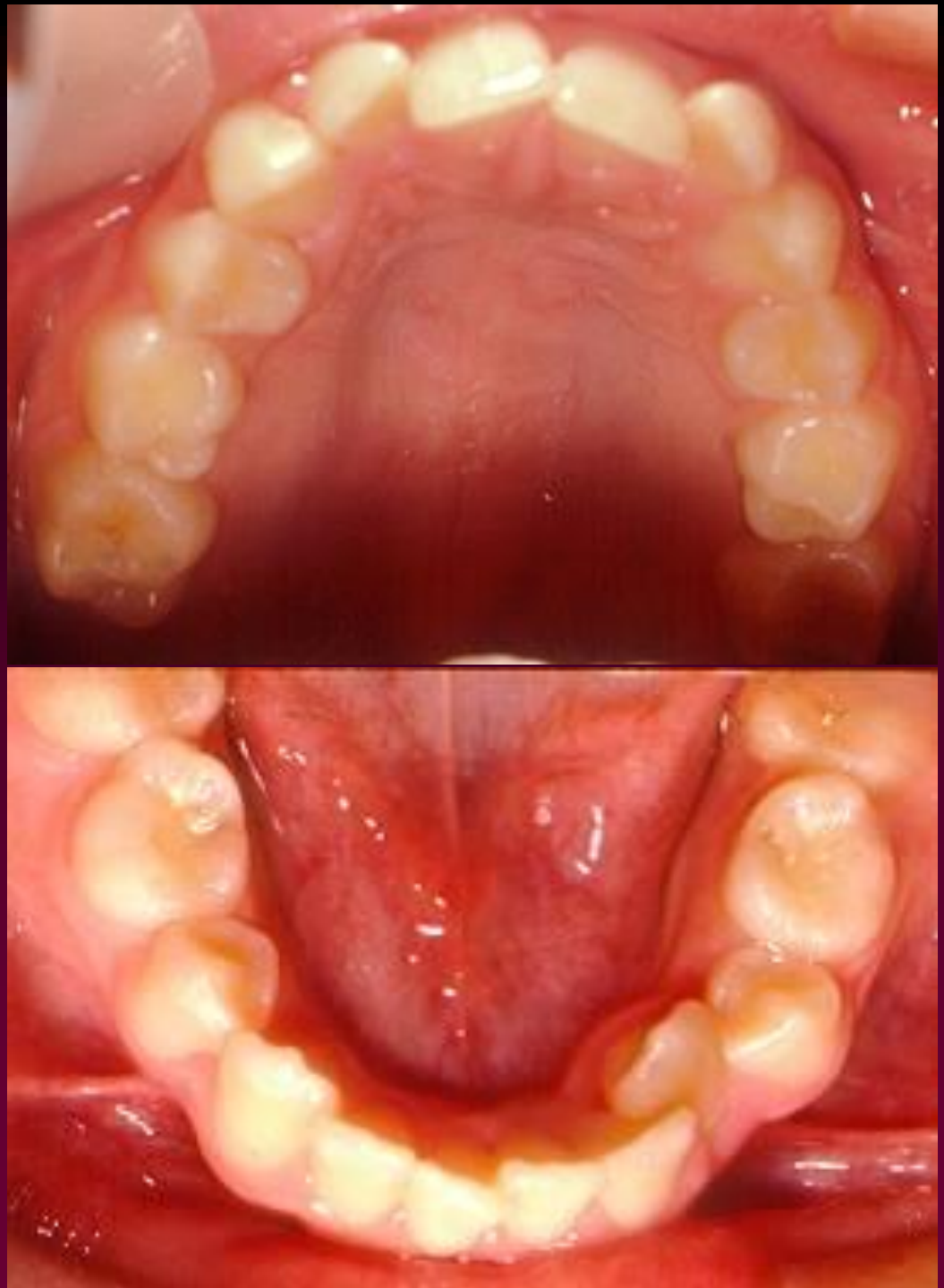


What problems do you see?





Phyllis R. **Age:11-7**





Is she a candidate for orthodontic extractions?

(trick question, be careful!)





Phyllis R.

Age:11-7







Phyllis R. **Age:11-7**

Do you think she will need premolar extraction?

If she has further orthodontic treatment:

- ***is she likely to grow more?***
- ***when would be the best time to do it?***
- ***refer or treat yourself?***

Why do we do Orthodontics?

- **Prevalence / Treatment Need**
- **Treatment of Crowding / Protrusion**
- **Camouflage of Skeletal Problems**
  - **Class II**

What is camouflage of a skeletal problem?

How do you do that?

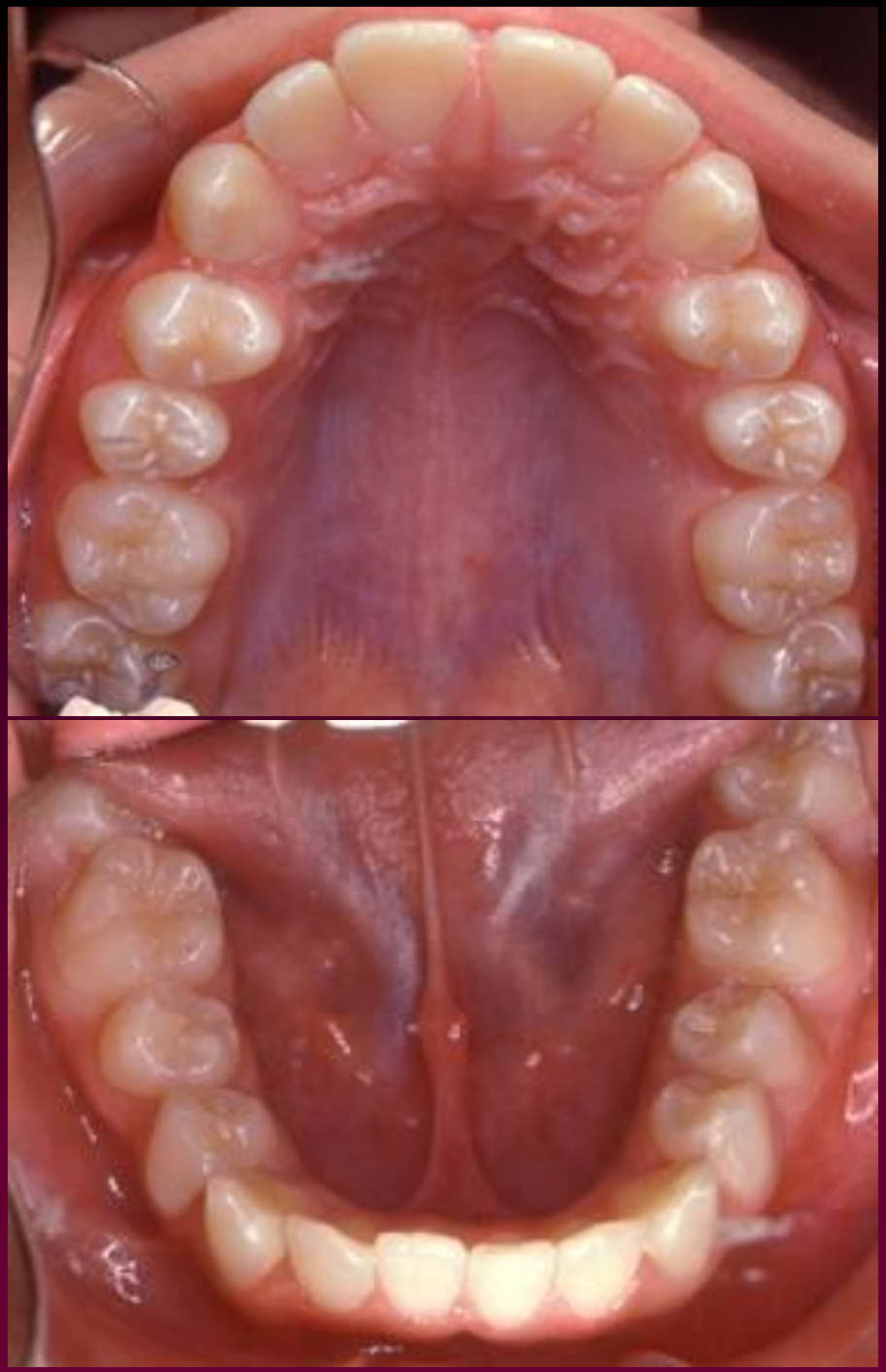


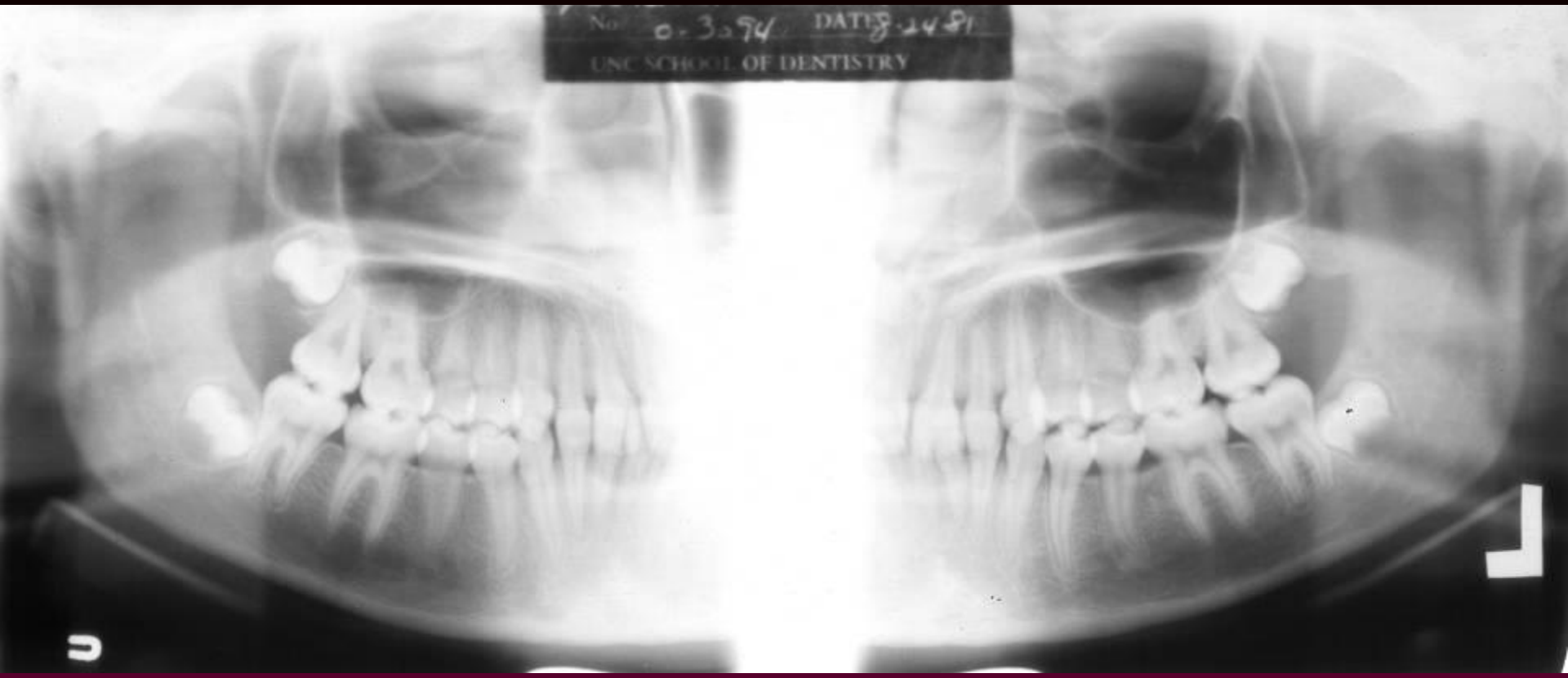
What problems do you see?





Lara W. – age 12-9




No. 0-3-94 DATE 8-24-81
UNC SCHOOL OF DENTISTRY



“My upper front teeth stick out and have a gap between them.”





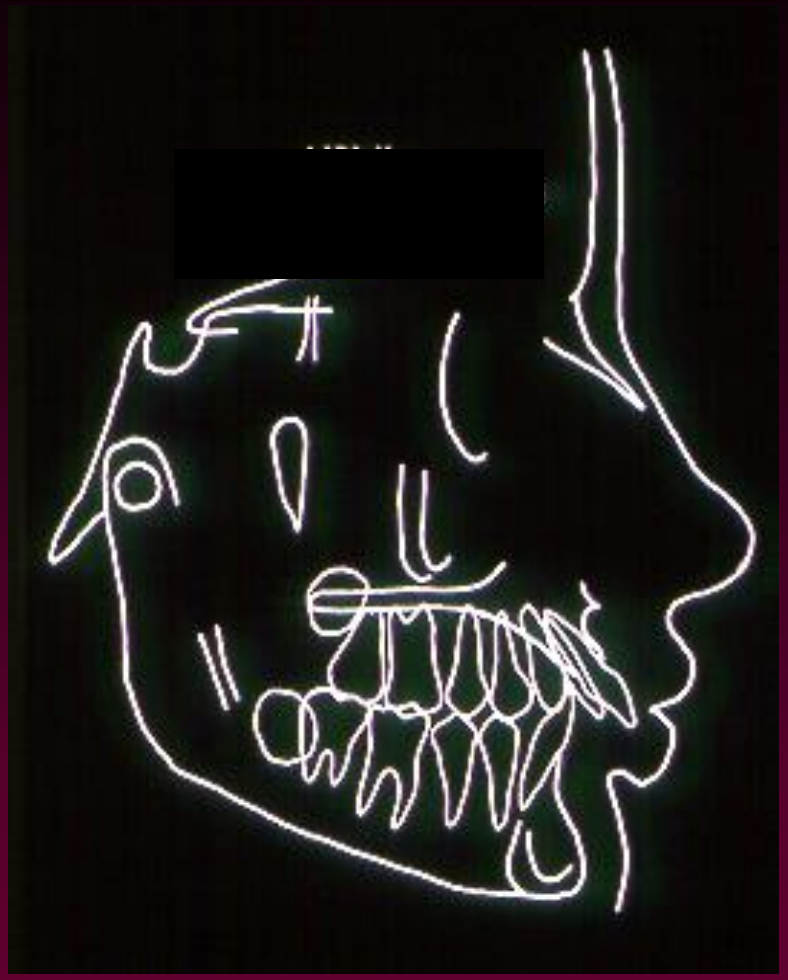
Lara W.

Age 12-9





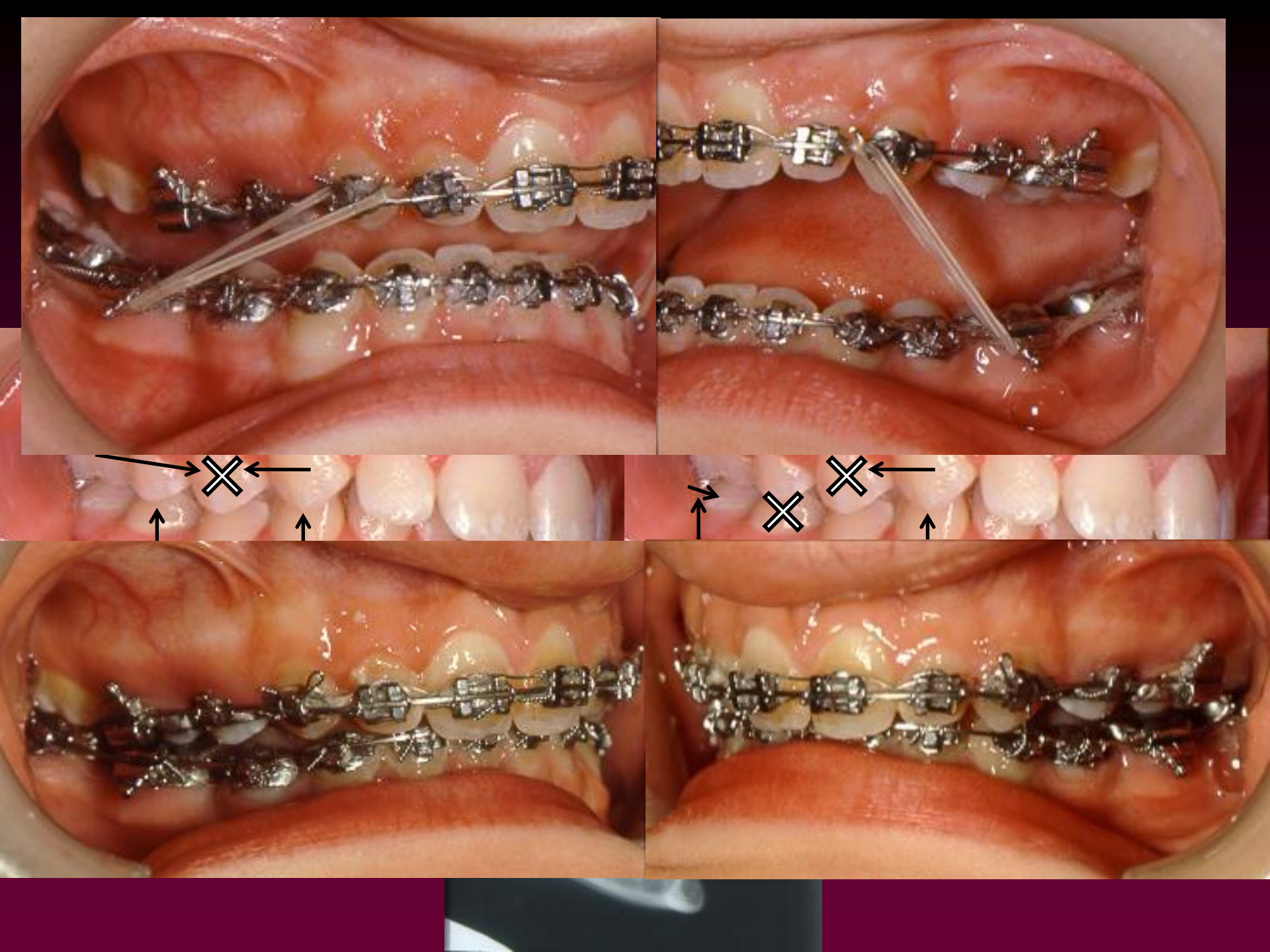




Do you think she will need premolar extraction?

If she has further orthodontic treatment:

- *is she likely to grow more?*
- *when would be the best time to do it?*
- *refer or treat yourself?*

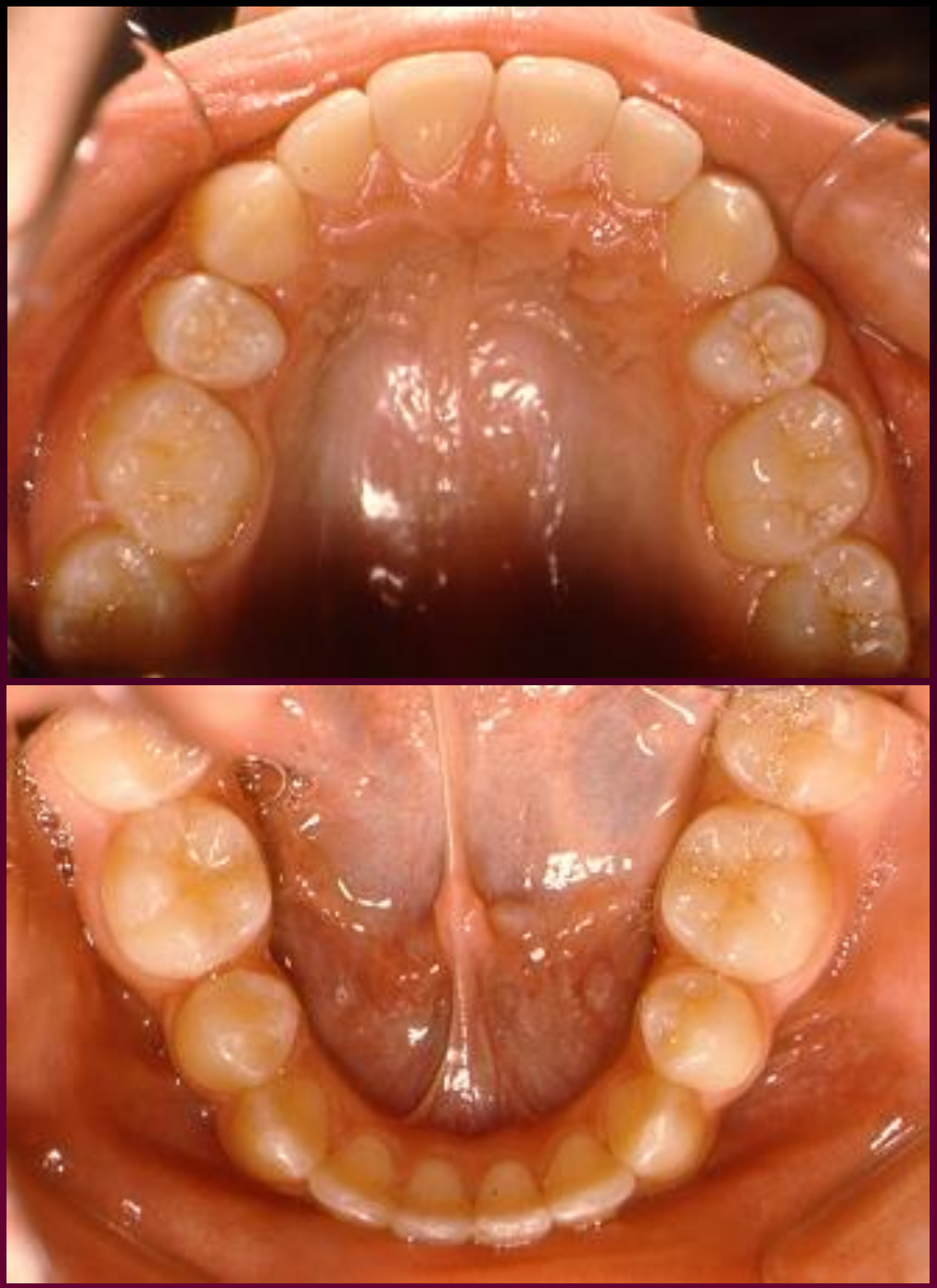


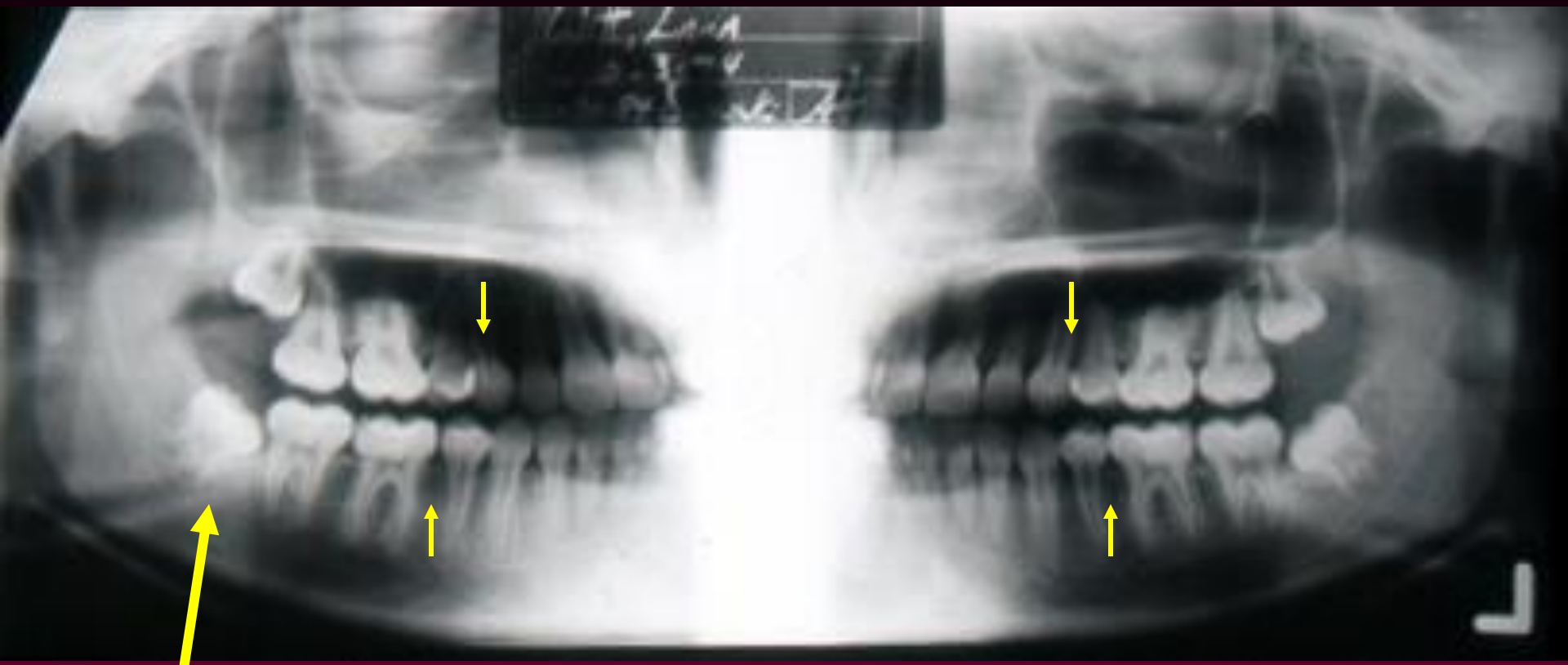






Lara W. Age 15-0 Finish





3rd molars and premolar extraction

Is this successful treatment?

How do we decide??

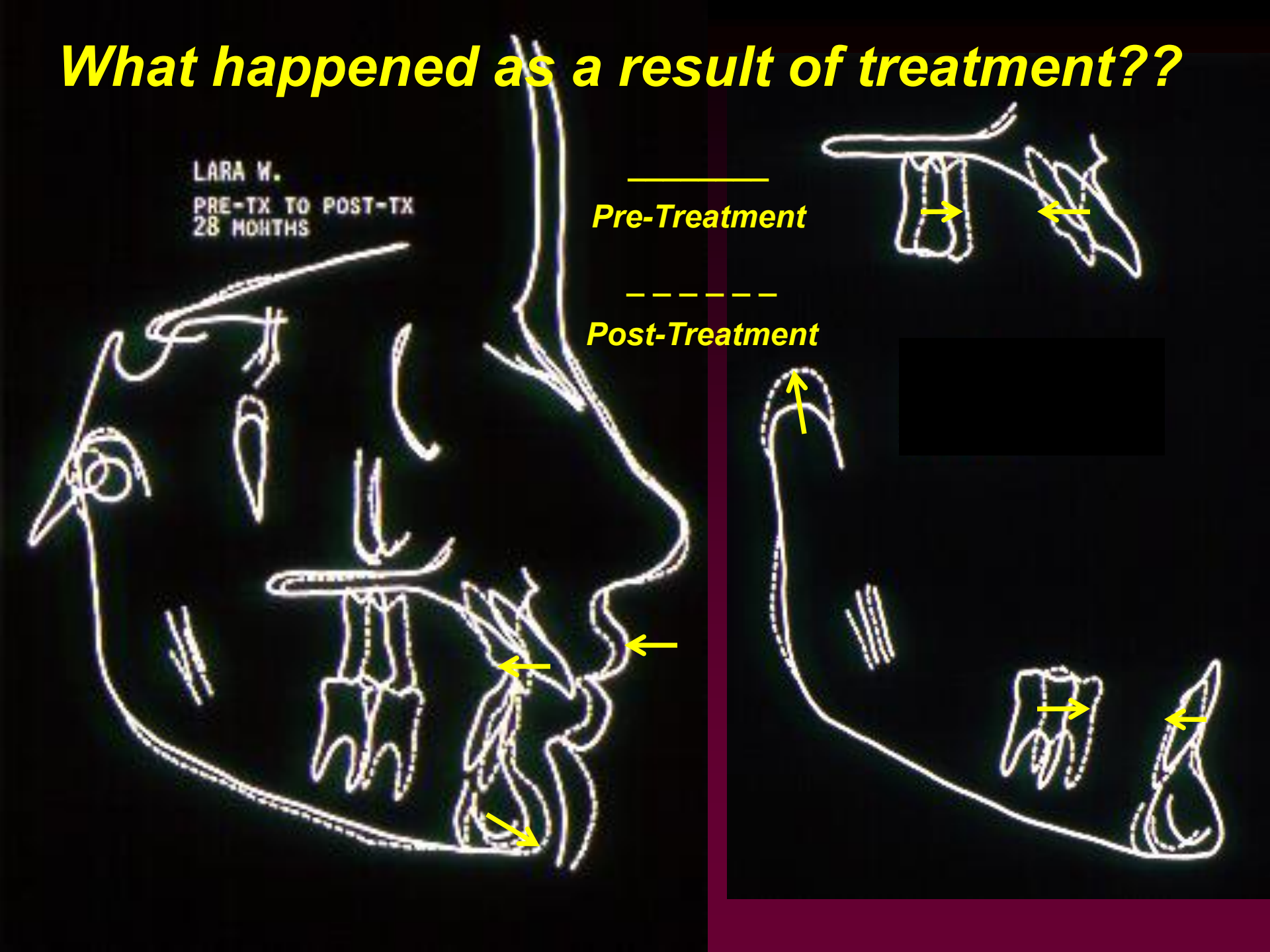




Lara W. *Age 15-0* *Finish*



What happened as a result of treatment??



Why do we do Orthodontics

- Prevalence / Treatment Need
- Treatment of Crowding / Protrusion
- Camouflage
  - Class II
  - Class III



What problems do you see?





Ebenezer E.

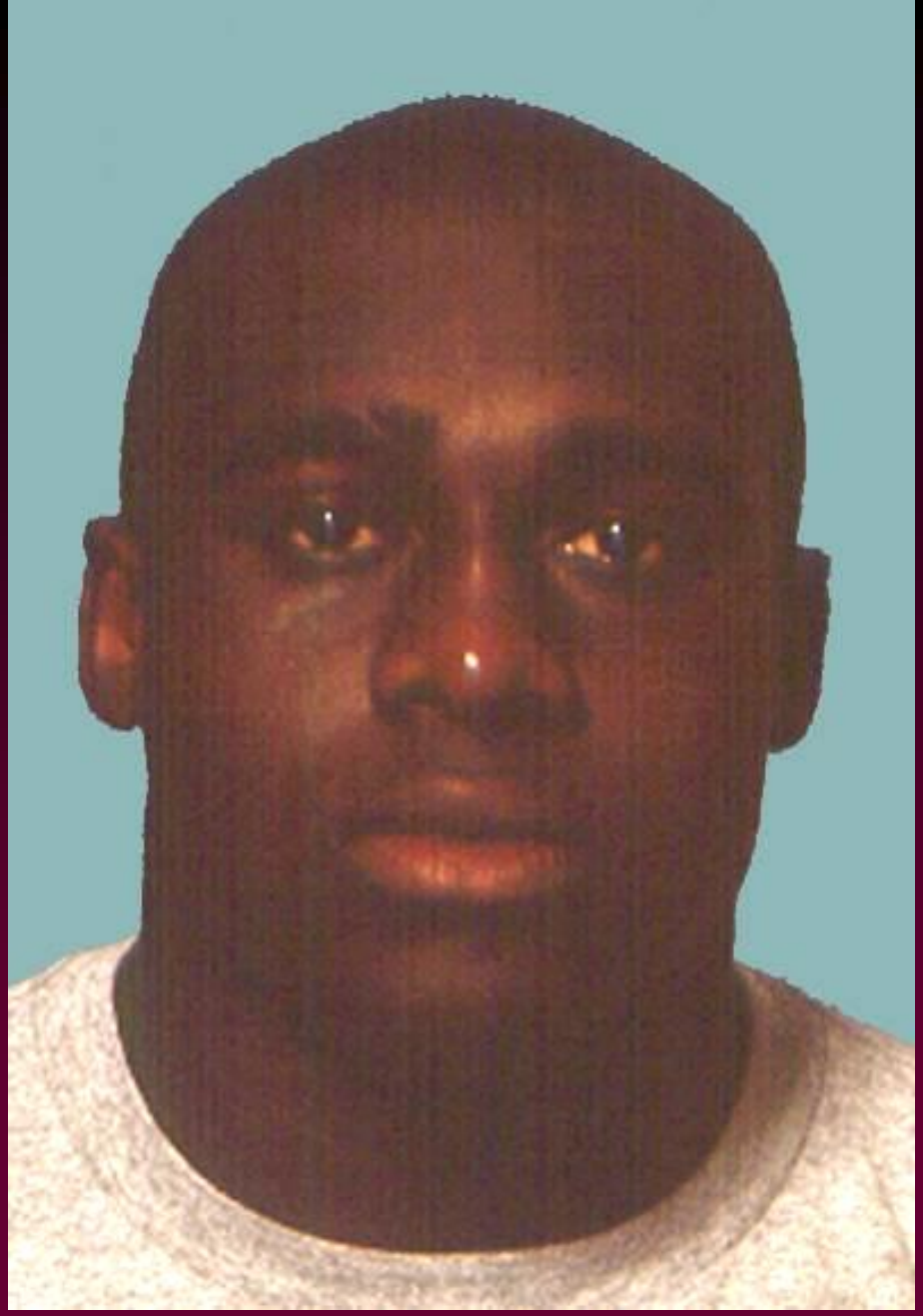
Age:20-10



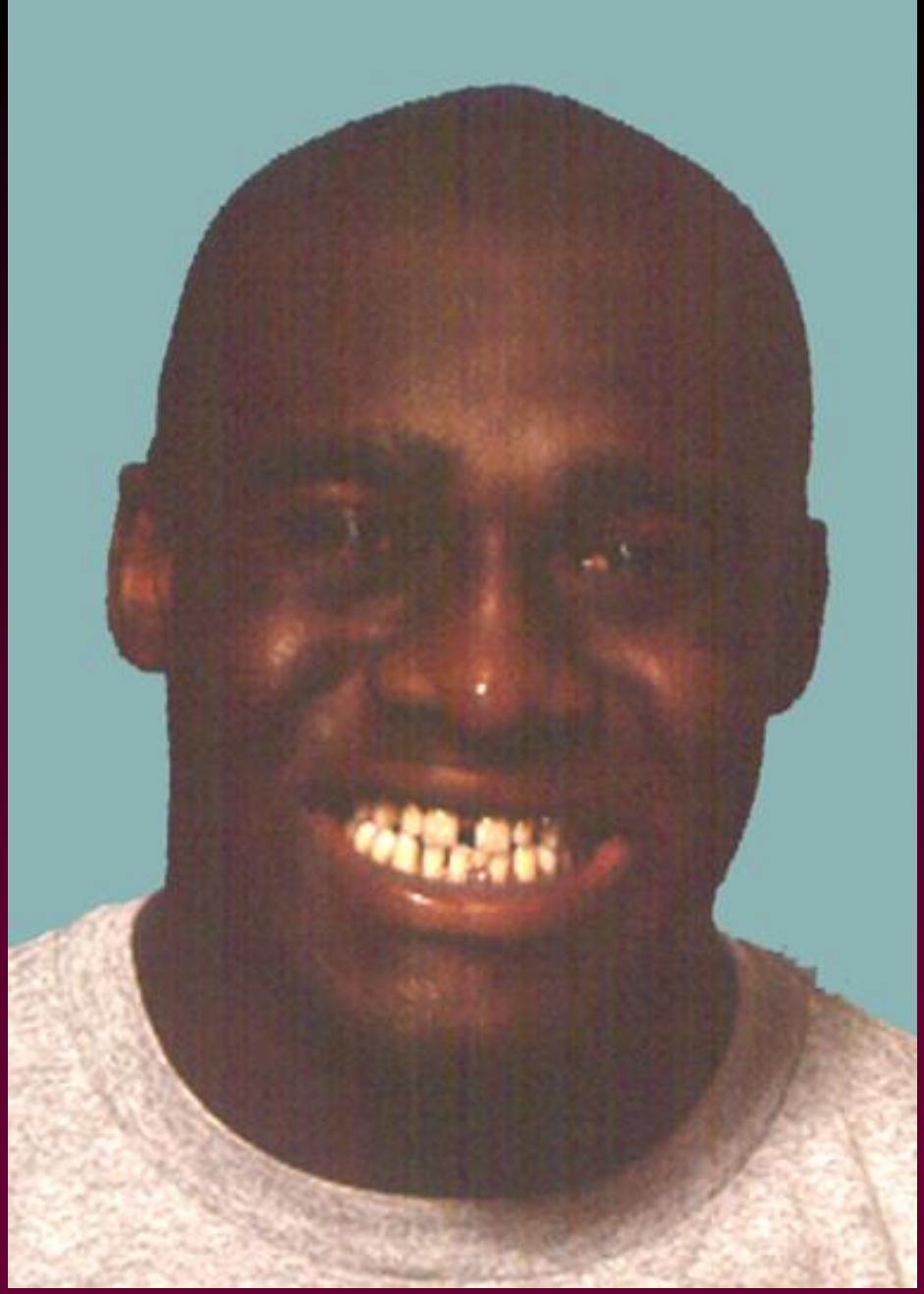


Ebenezer E.

Age:20-10



Ebenezer E.



Age:20-10

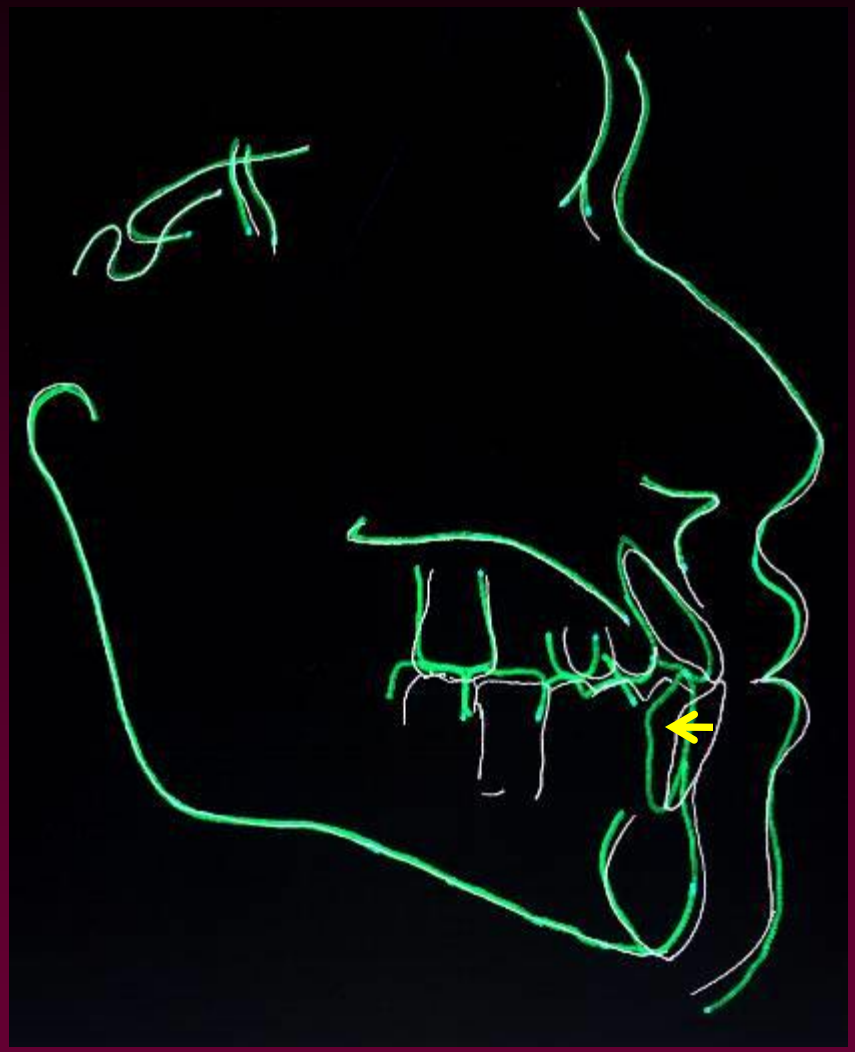






Is he a candidate for camouflage or surgery?





Ebenezer E. Age:22-3 Finish

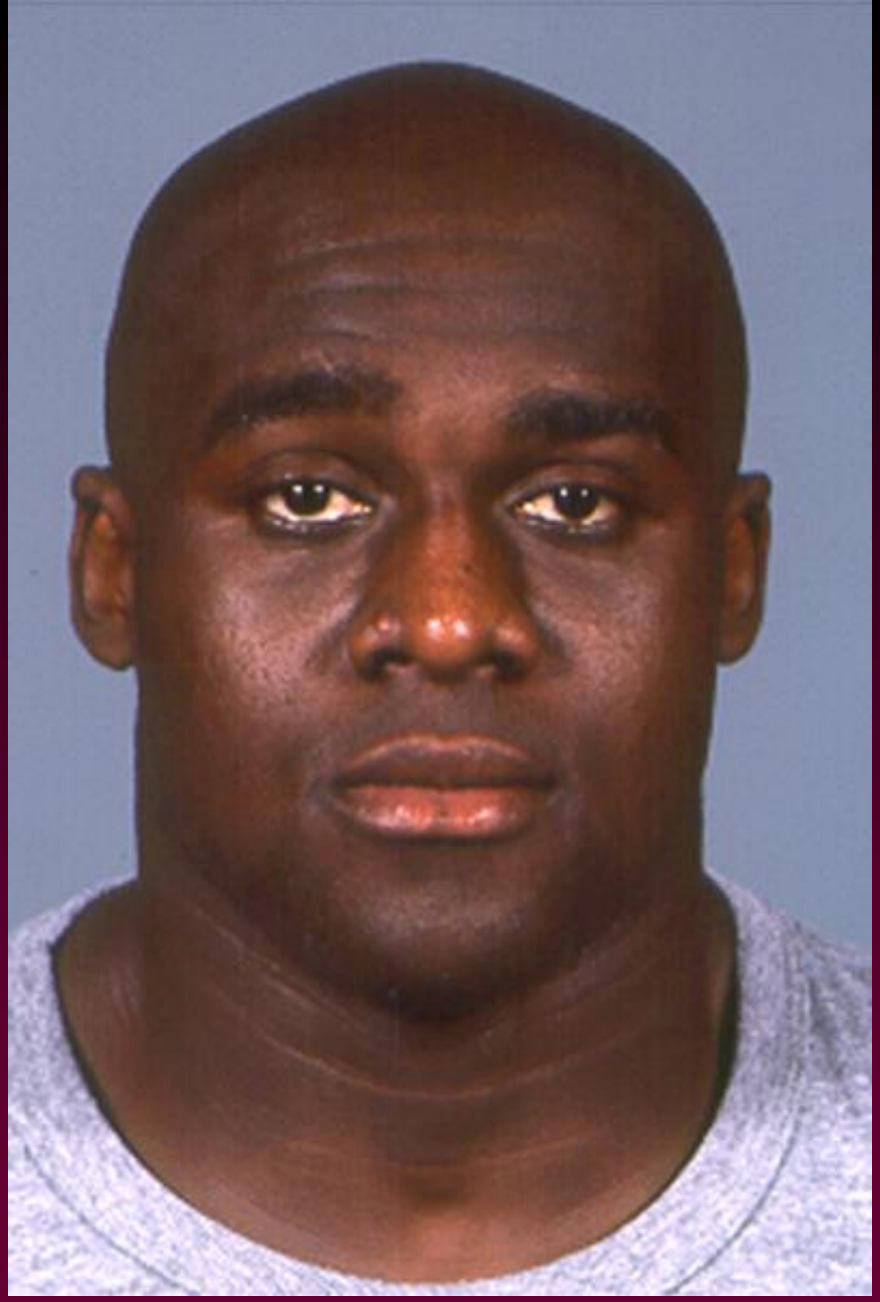


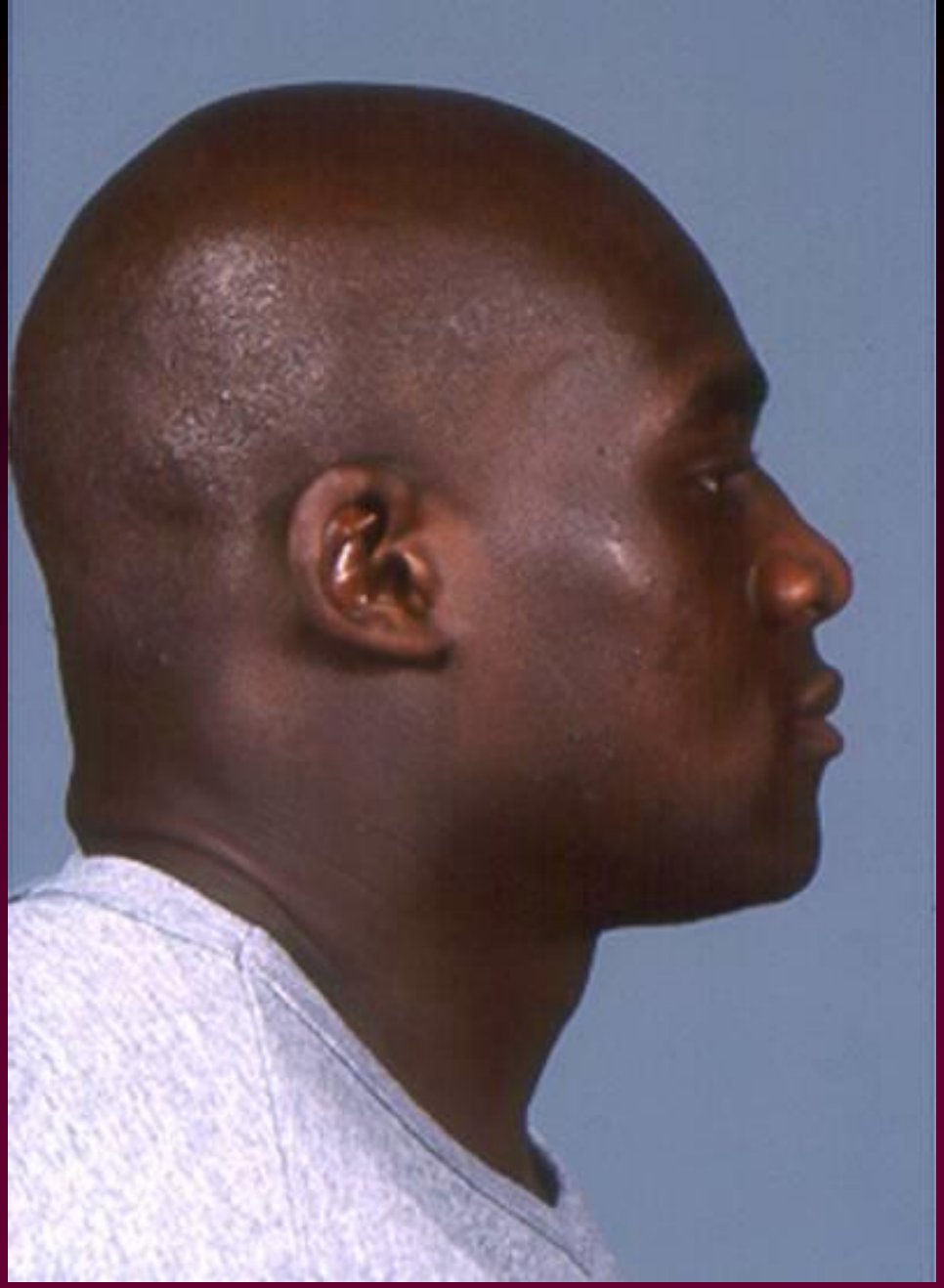




Ebenezer E. Age:22-3 Finish

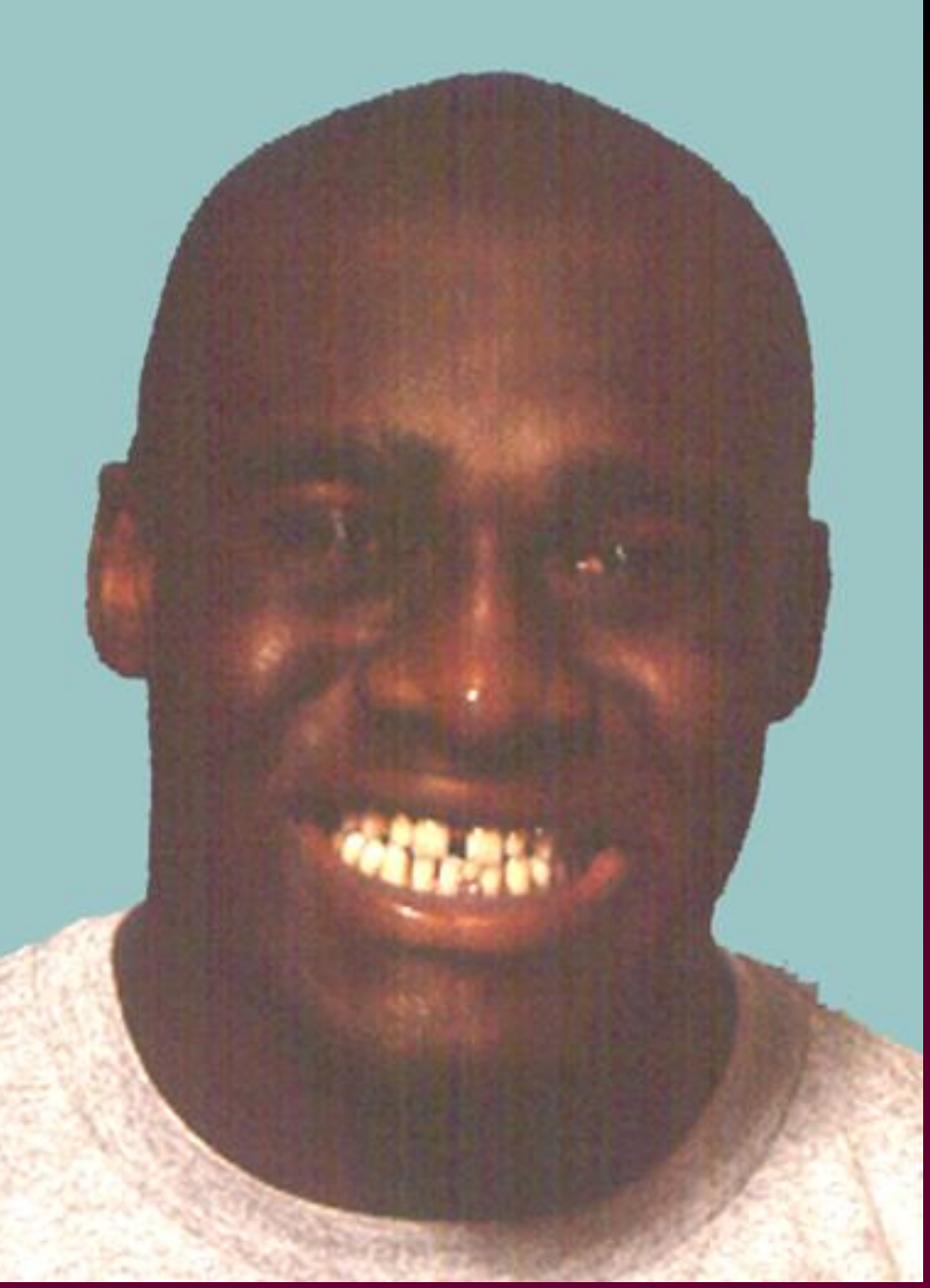






Ebenezer E.

Age:22-8



Age 20-10



Age 22-8



At the end of the Orthodontic course, you have neither the didactic or clinical knowledge to provide comprehensive orthodontic treatment.