An A or V pattern strabismus is simply one that
A/V Strabismus

V-pattern esotropia
A/V Strabismus

A-pattern exotropia
A/V Strabismus

- An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze.
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. Occurs in about __%__ of strabismus cases.
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases.
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. Occurs in about 20% of strabismus cases.

Can be secondary to:
1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

EOM problem
dysfunction

a different EOM problem
dysfunction

serious congenital problem w/ secondary EOM effects
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze.

- Occurs in about 20% of strabismus cases.

Can be secondary to:
1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis
An **A** or **V** pattern strabismus is simply one that changes magnitude in up- and down-gaze.

**A/V Strabismus**

Which pattern (A vs V) is associated with which oblique overaction?
--SO overaction causes...
--IO overaction causes...

Can be secondary to:

1) **Oblique** dysfunction
2) **Horizontal** or **vertical rectus** dysfunction
3) **Craniosynostosis**
An **A or V pattern** strabismus is simply one that changes magnitude in up- and down-gaze

- Occurs in about 20% of strabismus cases
- Can be secondary to:
  1. **Oblique dysfunction**
  2. Horizontal or vertical rectus dysfunction
  3. **Craniosynostosis**

---

*Which pattern (A vs V) is associated with which oblique overaction?*

- SO overaction causes… **A pattern strabismus** *(A’s are ‘superior’)*
- IO overaction causes… **V pattern strabismus**
A-pattern exotropia with overaction of the superior oblique muscles OU
V-pattern exotropia with moderate overaction of inferior oblique muscles OU
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. Occurs in about 20% of strabismus cases. Can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

To what does the term craniosynostosis refer?

Craniosynostosis
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. Occurs in about 20% of strabismus cases. Can be secondary to:
1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

To what does the term craniosynostosis refer?
To the premature closing of cranial suture(s)
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. Occurs in about 20% of strabismus cases. Can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

To what does the term craniosynostosis refer?
To the premature closing of cranial suture(s)

What results from premature suture closing?

Craniosynostosis
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. Occurs in about 20% of strabismus cases.

Can be secondary to:
1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

To what does the term craniosynostosis refer?
To the premature closing of cranial suture(s)

What results from premature suture closing?
Premature closure produces abnormal growth patterns of the skull and face. Depending upon which suture(s) closes prematurely, specific and well-recognized patterns of craniofacial malformation may result.
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze.

Occurs in about 20% of strabismus cases.

Can be secondary to:
1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

To what does the term craniosynostosis refer?
To the premature closing of cranial suture(s)

What results from premature suture closing?
Premature closure produces abnormal growth patterns of the skull and face. Depending upon which suture(s) closes prematurely, specific and well-recognized patterns of craniofacial malformation may result.

Craniosynostoses

What is the other broad category of craniofacial syndrome?
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases.

Can be secondary to:
1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

*To what does the term craniosynostosis refer?*
To the premature closing of cranial suture(s)

*What results from premature suture closing?*
Premature closure produces abnormal growth patterns of the skull and face. Depending upon which suture(s) closes prematurely, specific and well-recognized patterns of craniofacial malformation may result.

Craniosynostoses

Not craniosynostoses

*What is the other broad category of craniofacial syndrome?*
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze.

Occurs in about 20% of strabismus cases.

Can be secondary to:
1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

To what does the term craniosynostosis refer?
To the premature closing of cranial suture(s).

What results from premature suture closing?
Premature closure produces abnormal growth patterns of the skull and face. Depending upon which suture(s) closes prematurely, specific and well-recognized patterns of craniofacial malformation may result.

Craniosynostoses

Not craniosynostoses

Which not-craniosynostosis craniofacial malformations are addressed in the Peds book?
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze.

Occur in about 20% of strabismus cases.

Can be secondary to:
1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

To what does the term craniosynostosis refer?
To the premature closing of cranial suture(s).

What results from premature suture closing?
Premature closure produces abnormal growth patterns of the skull and face. Depending upon which suture(s) closes prematurely, specific and well-recognized patterns of craniofacial malformation may result.

Craniosynostoses

Not craniosynostoses

--Goldenhar
--Treacher Collins
--Pierre Robin sequence
--Fetal alcohol

Which not-craniosynostosis craniofacial malformations are addressed in the Peds book?
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze.

- Occupies about 20% of strabismus cases.
- Can be secondary to:
  1. Oblique dysfunction
  2. Horizontal or vertical rectus dysfunction
  3. Craniosynostosis

**To what does the term craniosynostosis refer?**
To the premature closing of cranial suture(s).

**What results from premature suture closing?**
Premature closure produces abnormal growth patterns of the skull and face. Depending upon which suture(s) closes prematurely, specific and well-recognized patterns of craniofacial malformation may result.

**Two categories of craniofacial syndrome**

- Craniosynostoses
  - Goldenhar
  - Treacher Collins
  - Pierre Robin sequence
  - Fetal alcohol
- Not craniosynostoses

*Which craniosynostosis syndromes are addressed in the Peds book?*
- ?
- ?
- ?
- ?
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze.

Occurs in about 20% of strabismus cases.

Can be secondary to:
1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

To what does the term craniosynostosis refer?
To the premature closing of cranial suture(s).

What results from premature suture closing?
Premature closure produces abnormal growth patterns of the skull and face. Depending upon which suture(s) closes prematurely, specific and well-recognized patterns of craniofacial malformation may result.

Two categories of craniofacial syndrome

Which craniosynostosis syndromes are addressed in the Peds book?

Crouzon
Apert
Pfeiffer
Saethre-Chotzen

Goldenhar
Treacher Collins
Pierre Robin sequence
Fetal alcohol
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. Occurs in about 20% of strabismus cases. Can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) **Craniosynostosis**

What strabismus pattern are craniosynostoses usually associated with?
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. Occurs in about 20% of strabismus cases.

Can be secondary to:
1) **Oblique dysfunction**
2) **Horizontal or vertical rectus dysfunction**
3) **Craniosynostosis**

What strabismus pattern are craniosynostoses usually associated with? **V-pattern XT**
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases. It can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with? V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases. It can be secondary to:

1. Oblique dysfunction
2. Horizontal or vertical rectus dysfunction
3. Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with? V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
--Crouzon syndrome
--Apert syndrome
--Pfeiffer syndrome
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases and can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with? V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?

--Crouzon syndrome
--Apert syndrome
--Pfeiffer syndrome
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases and can be secondary to:
1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with? V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
- Crouzon syndrome
- Apert syndrome
- Pfeiffer syndrome
Crouzon syndrome: Characteristic facies
Q

- An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze.
- Occurs in about 20% of strabismus cases.
- Can be secondary to:
  1) Oblique dysfunction
  2) Horizontal or vertical rectus dysfunction
  3) Craniosynostosis

All three craniosynostoses have similar facies. How can they be differentiated?

- **Crouzon syndrome**: Characteristic facies only
- **Apert syndrome**: Facies +

What strabismus pattern are craniosynostoses usually associated with?
V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
- Crouzon syndrome
- Apert syndrome
- Pfeiffer syndrome
A/V Strabismus

- An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze.
- Occurs in about 20% of strabismus cases.
- Can be secondary to:
  1) Oblique dysfunction
  2) Horizontal or vertical rectus dysfunction
  3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with? V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT? -- Crouzon syndrome -- Apert syndrome -- Pfeiffer syndrome
Apert syndrome: Characteristic facies and marked syndactyly
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases. It can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with? V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
- Crouzon syndrome
- Apert syndrome
- Pfeiffer syndrome

All three craniosynostoses have similar facies. How can they be differentiated?

- Crouzon syndrome: Characteristic facies only
- Apert syndrome: Facies + syndactyly of hands and feet
- Pfeiffer syndrome: Facies + broad thumbs and broad big toes

Mnemonics:
‘Patients with Apert syndrome can’t get their fingers and toes apert’ (apart)
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases and can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with? V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT? 
--Crouzon syndrome
--Apert syndrome
--Pfeiffer syndrome

All three craniosynostoses have similar facies. How can they be differentiated?

**Crouzon syndrome**: Characteristic facies only
**Apert syndrome**: Facies + syndactyly of hands and feet
**Pfeiffer syndrome**: Facies +

Mnemonics: ‘Patients with Apert syndrome can’t get their fingers and toes apert’ (apart)
A/V Strabismus

An A/V pattern strabismus is simply one that changes magnitude in up- and downgaze.

- Occurs in about 20% of strabismus cases.
- Can be secondary to:
  1. Oblique dysfunction
  2. Horizontal or vertical rectus dysfunction
  3. Craniosynostosis

Crouzon syndrome: Characteristic facies only
Apert syndrome: Facies + syndactyly of hands and feet
Pfeiffer syndrome: Facies + broad thumbs and broad big toes

Mnemonics:
- ‘Patients with Apert syndrome can’t get their fingers and toes apert’ (apart)
- ‘Michelle Pfeiffer has huge thumbs and toes’

What strabismus pattern are craniosynostoses usually associated with?
V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
--Crouzon syndrome
--Apert syndrome
--Pfeiffer syndrome
Pfeiffer syndrome: Characteristic facies, broad thumbs/great toes
A/V Strabismus

- An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze.
- Occurs in about 20% of strabismus cases.
- Can be secondary to:
  1) Oblique dysfunction
  2) Horizontal or vertical rectus dysfunction
  3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with?

V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?

-- Crouzon syndrome
-- Apert syndrome
-- Pfeiffer syndrome

Mnemonics:
- ‘Patients with Apert syndrome can’t get their fingers and toes apert’ (apart)
- ‘Michelle Pfeiffer has huge thumbs and toes’ (not really)
3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with? V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
--Crouzon syndrome
--Apert syndrome
--Pfeiffer syndrome
A/V Strabismus

All three craniosynostoses have similar facies. How can they be differentiated?

Crouzon syndrome: Characteristic facies
Apert syndrome: Facies + syndactyly of hands and feet
Pfeiffer syndrome: Facies + broad thumbs and broad big toes

In addition to V-pattern XT, what other ocular abnormalities are often present in pts with craniosynostosis?

--hypertelorism
--telecanthus
--shallow orbits
--extorsion of the orbits
--papilledema

3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with?
V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
--Crouzon syndrome
--Apert syndrome
--Pfeiffer syndrome
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases. It can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with? V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
--Crouzon syndrome
--Apert syndrome
--Pfeiffer syndrome

In addition to V-pattern XT, what other ocular abnormalities are often present in pts with craniosynostosis?
--hypertelorism
--telecanthus
--shallow orbits
--extorsion of the orbits
--papilledema

What is the difference between hypertelorism and telecanthus?
Hypertelorism refers to an abnormally increased distance between the medial orbital walls; telecanthus refers to an abnormally increased distance between the medial canthi.

What are the three most common craniosynostoses associated with V-pattern XT?
--Crouzon syndrome
--Apert syndrome
--Pfeiffer syndrome

All three craniosynostoses have similar facies. How can they be differentiated?

**Crouzon syndrome**: Characteristic facies
**Apert syndrome**: Facies + syndactyly of hands and feet
**Pfeiffer syndrome**: Facies + broad thumbs and broad big toes

Crouzon syndrome: Characteristic facies
Apert syndrome: Facies + syndactyly of hands and feet
Pfeiffer syndrome: Facies + broad thumbs and broad big toes

In addition to V-pattern XT, what other ocular abnormalities are often present in pts with craniosynostosis?
--hypertelorism
--telecanthus
--shallow orbits
--extorsion of the orbits
--papilledema
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. Occurs in about 20% of strabismus cases. Can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

In addition to V-pattern XT, what other ocular abnormalities are often present in pts with craniosynostosis?

--hypertelorism
--telecanthus
--shallow orbits
--extorsion of the orbits
--papilledema

What strabismus pattern are craniosynostoses usually associated with?

V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?

--Crouzon syndrome
--Apert syndrome
--Pfeiffer syndrome

All three craniosynostoses have similar facies. How can they be differentiated?

Crouzon syndrome: Characteristic facies
Apert syndrome: Facies + syndactyly of hands and feet
Pfeiffer syndrome: Facies + broad thumbs and broad big toes

What is the difference between hypertelorism and telecanthus?

Hypertelorism refers to an abnormally increased distance between the medial orbital walls; telecanthus refers to an abnormally increased distance between the medial canthi.

In addition to V-pattern XT, what other ocular abnormalities are often present in pts with craniosynostosis?

Hypertelorism refers to an abnormally increased distance between the medial orbital walls; telecanthus refers to an abnormally increased distance between the medial canthi.

Crouzon syndrome: Characteristic facies
Apert syndrome: Facies + syndactyly of hands and feet
Pfeiffer syndrome: Facies + broad thumbs and broad big toes

3) Craniosynostosis

What is the difference between hypertelorism and telecanthus?
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases.

- Can be secondary to:
  - Oblique dysfunction
  - Horizontal or vertical rectus dysfunction
  - Craniosynostosis

**What strabismus pattern are craniosynostoses usually associated with?**

- V-pattern XT

**What are the three most common craniosynostoses associated with V-pattern XT?**

- Crouzon syndrome
- Apert syndrome
- Pfeiffer syndrome

In addition to V-pattern XT, other ocular abnormalities are often present in patients with craniosynostosis:

- Hypertelorism
- Telecanthus
- Shallow orbits
- Extorsion of the orbit
- Papilledema

**What is the difference between hypertelorism and telecanthus?**

- **Hypertelorism** refers to an abnormally increased distance between the medial orbital walls; **telecanthus** refers to an abnormally increased distance between the medial canthi.

**Which manifests as an increased interpupillary distance?**

- Hypertelorism

**3) Craniosynostosis**

**What strabismus pattern are craniosynostoses usually associated with?**

- V-pattern XT

**What are the three most common craniosynostoses associated with V-pattern XT?**

- Crouzon syndrome
- Apert syndrome
- Pfeiffer syndrome
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases and can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with? V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
-- Crouzon syndrome
-- Apert syndrome
-- Pfeiffer syndrome

In addition to V-pattern XT, what other ocular abnormalities are often present in patients with craniosynostosis?
-- Hypertelorism
-- Telecanthus
-- Shallow orbits
-- Extorsion of the orbits
-- Papilledema

What is the difference between hypertelorism and telecanthus? Hypertelorism refers to an abnormally increased distance between the medial orbital walls; telecanthus refers to an abnormally increased distance between the medial canthi.

Which manifests as an increased interpupillary distance? Hypertelorism

What strabismus pattern are craniosynostoses usually associated with? V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
-- Crouzon syndrome
-- Apert syndrome
-- Pfeiffer syndrome
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases and can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

A/V Strabismus

All three craniosynostoses have similar facies. How can they be differentiated?

Crouzon syndrome: Characteristic facies
Apert syndrome: Facies + syndactyly of hands and feet
Pfeiffer syndrome: Facies + broad thumbs and broad big toes

In addition to V-pattern XT, what other ocular abnormalities are often present in pts with craniosynostosis?

- Hypertelorism
- Telecanthus
- Shallow orbits
- Extortion of the orbits
- Papilledema

What serious sequelae can result from shallow orbits?

Shallow orbits produce proptosis, which may lead to exposure keratopathy.

3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with?

V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?

-- Crouzon syndrome
-- Apert syndrome
-- Pfeiffer syndrome
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases and can be secondary to:
1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

All three craniosynostoses have similar facies. How can they be differentiated?
- **Crouzon syndrome**: Characteristic facies
- **Apert syndrome**: Facies + syndactyly of hands and feet
- **Pfeiffer syndrome**: Facies + broad thumbs and broad big toes

In addition to V-pattern XT, what other ocular abnormalities are often present in pts with craniosynostosis?
- hypertelorism
- telecanthus
- shallow orbits
- extorsion of the orbit
- papilledema

What serious sequelae can result from shallow orbits?
Shallow orbits produce proptosis, which may lead to exposure keratopathy.

---

**3) Craniosynostosis**

What strabismus pattern are craniosynostoses usually associated with?
V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
- Crouzon syndrome
- Apert syndrome
- Pfeiffer syndrome
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases and can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with? V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
--Crouzon syndrome
--Apert syndrome
--Pfeiffer syndrome

In addition to V-pattern XT, what other ocular abnormalities are often present in pts with craniosynostosis?
--hypertelorism
--telecanthus
--shallow orbits
--extorsion of the orbits
--papilledema

What are the sequelae of orbital extorsion?

The location of the rectus muscles are extorted as well. For example, the medial recti are located in the superonasal orbit. Thus, when the eyes adduct they also elevate, giving the impression of IO overaction (called pseudo-IO overaction). Orbital extorsion contributes to the overall V-pattern XT.

All three craniosynostoses have similar facies. How can they be differentiated?

Crouzon syndrome: Characteristic facies
Apert syndrome: Facies + syndactyly of hands and feet
Pfeiffer syndrome: Facies + broad thumbs and broad big toes

In addition to V-pattern XT, what other ocular abnormalities are often present in pts with craniosynostosis?

What are the three most common craniosynostoses associated with V-pattern XT?

Craniosynostosis

What are the three most common craniosynostoses associated with V-pattern XT?
--Crouzon syndrome
--Apert syndrome
--Pfeiffer syndrome
A/V Strabismus

An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases. It can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with?
V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
--Crouzon syndrome
--Apert syndrome
--Pfeiffer syndrome

All three craniosynostoses have similar facies. How can they be differentiated?

Crouzon syndrome: Characteristic facies
Apert syndrome: Facies + syndactyly of hands and feet
Pfeiffer syndrome: Facies + broad thumbs and broad big toes

In addition to V-pattern XT, what other ocular abnormalities are often present in pts with craniosynostosis?
--hypertelorism
--telecanthus
--shallow orbits
--extorsion of the orbits
--papilledema

What are the sequelae of orbital extorsion?
The location of the rectus muscles are extorted as well. For example, the medial recti are located in the superonasal orbit. Thus, when the eyes adduct they also elevate, giving the impression of IO overaction (called pseudo-IO overaction).

Orbital extorsion contributes to the overall V-pattern XT.
Q

- An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze.

- An A or V pattern strabismus occurs in about 20% of strabismus cases.

- It can be secondary to:
  1) Oblique dysfunction
  2) Horizontal or vertical rectus dysfunction
  3) Craniosynostosis

A/V Strabismus

What strabismus pattern are craniosynostoses usually associated with?
V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
-- Crouzon syndrome
-- Apert syndrome
-- Pfeiffer syndrome

All three craniosynostoses have similar facies. How can they be differentiated?

- Crouzon syndrome: Characteristic facies
- Apert syndrome: Facies + syndactyly of hands and feet
- Pfeiffer syndrome: Facies + broad thumbs and broad big toes

In addition to V-pattern XT, what other ocular abnormalities are often present in pts with craniosynostosis?
-- hypertelorism
-- telecanthus
-- shallow orbits
-- extorsion of the orbits
-- papilledema

Why do craniosynostosis patients get papilledema?

Premature suture closure leads to elevated ICP, thereby producing papilledema.

What strabismus pattern are craniosynostoses usually associated with?
V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
-- Crouzon syndrome
-- Apert syndrome
-- Pfeiffer syndrome

Mnemonics:
'Patients with Apert syndrome can't get their fingers and toes apart' (apert)
'Michelle Pfeiffer has huge thumbs and toes'
A/V Strabismus

An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases and can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with?

V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?

--Crouzon syndrome
--Apert syndrome
--Pfeiffer syndrome

3) Craniosynostosis

All three craniosynostoses have similar facies. How can they be differentiated?

Crouzon syndrome: Characteristic facies
Apert syndrome: Facies + syndactyly of hands and feet
Pfeiffer syndrome: Facies + broad thumbs and broad big toes

In addition to V-pattern XT, what other ocular abnormalities are often present in pts with craniosynostosis?

--hypertelorism
--telecanthus
--shallow orbits
--extorsion of the orbits
--papilledema

Why do craniosynostosis patients get papilledema? Premature suture closure leads to elevated ICP, thereby producing papilledema.
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze cases.

- Occurs in about 20% of strabismus cases.
- Can be secondary to:
  1. Oblique dysfunction.
  2. Horizontal or vertical rectus dysfunction.
  3. Craniosynostosis.

What strabismus pattern are craniosynostoses usually associated with?
V-pattern XT.

What are the three most common craniosynostoses associated with V-pattern XT?
-- Crouzon syndrome
-- Apert syndrome
-- Pfeiffer syndrome.

A/V Strabismus

All three craniosynostoses have similar facies. How can they be differentiated?

- **Crouzon syndrome**: Characteristic facies.
- **Apert syndrome**: Facies + syndactyly of hands and feet.
- **Pfeiffer syndrome**: Facies + broad thumbs and broad big toes.

In addition to V-pattern XT, what other ocular abnormalities are often present in pts with craniosynostosis?
-- Hypertelorism
-- Telecanthus
-- Shallow orbits
-- Exotropia
-- Papilledema

A-pattern strabismus is associated with another congenital condition involving abnormal closure of the skeleton housing the CNS—what is that condition?

Premature suture closure leads to elevated ICP, thereby producing papilledema.

Why do craniosynostosis patients get papilledema?
Premature suture closure leads to elevated ICP, thereby producing papilledema.

What strabismus pattern are craniosynostoses usually associated with?
V-pattern XT.

What are the three most common craniosynostoses associated with V-pattern XT?
-- Crouzon syndrome
-- Apert syndrome
-- Pfeiffer syndrome.
A/V Strabismus

An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases. It can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

What strabismus pattern are craniosynostoses usually associated with? V-pattern XT

What are the three most common craniosynostoses associated with V-pattern XT?
--Crouzon syndrome
--Apert syndrome
--Pfeiffer syndrome

All three craniosynostoses have similar facies. How can they be differentiated?

Crouzon syndrome: Characteristic facies
Apert syndrome: Facies + syndactyly of hands and feet
Pfeiffer syndrome: Facies + broad thumbs and broad big toes

In addition to V-pattern XT, what other ocular abnormalities are often present in pts with craniosynostosis?
--hypertelorism
--telecanthus
--shallow orbits
--extorsion of the orbits
--papilledema

A-pattern strabismus is associated with another congenital condition involving abnormal closure of the skeleton housing the CNS—what is that condition? Spina bifida

Premature suture closure leads to elevated ICP, thereby producing papilledema
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. Occurs in about 20% of strabismus cases. Can be secondary to:

**Management of A/V pattern strabismus**

--Correct overaction if present
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases.

Can be secondary to:

**Management of A/V pattern strabismus**
--Correct oblique overaction if present
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. Occurs in about 20% of strabismus cases. Can be secondary to:

- Oblique dysfunction
- Horizontal or vertical rectus dysfunction
- Craniosynostosis

Management of A/V pattern strabismus

--Correct oblique overaction if present
--Rule of thumb: Large A/V deviations usually involve overaction
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. Occurs in about 20% of strabismus cases. Can be secondary to:

**Management of A/V pattern strabismus**

--Correct oblique overaction if present

--Rule of thumb: Large A/V deviations usually involve oblique overaction
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases. It can be secondary to:

- Oblique dysfunction
- Horizontal or vertical rectus dysfunction
- Craniosynostosis

**Management of A/V pattern strabismus**

- Correct oblique overaction if present
- *Rule of thumb:* Large A/V deviations usually involve oblique overaction
- Focus on primary and reading positions

**Q**
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases. It can be secondary to:

- Oblique dysfunction
- Horizontal or vertical rectus dysfunction
- Craniosynostosis

Management of A/V pattern strabismus:

- Correct oblique overaction if present
- Rule of thumb: Large A/V deviations usually involve oblique overaction
- Focus on primary and reading positions
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. It occurs in about 20% of strabismus cases and can be secondary to:

1) Oblique dysfunction
2) Horizontal or vertical rectus dysfunction
3) Craniosynostosis

**Management of A/V pattern strabismus**

--Correct oblique overaction if present

--Rule of thumb: Large A/V deviations usually involve oblique overaction

--Focus on primary and reading positions

--If no oblique overaction, correct by displacing the lateral and medial recti according to the mnemonic **MALE**:

- Transpose the medial recti toward the apex,
- and the lateral recti toward the empty space

--Plan and correct the horizontal deviation independently
● An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze.

● Occurs in about 20% of strabismus cases.

● Can be secondary to:

**Management of A/V pattern strabismus**
--Correct oblique overaction if present
  --*Rule of thumb*: Large A/V deviations usually involve oblique overaction
--Focus on primary and reading positions
--If no oblique overaction, correct by displacing the medial and lateral recti according to the mnemonic **MALE**:
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. Occurs in about 20% of strabismus cases. Can be secondary to:

- Oblique dysfunction
- Horizontal or vertical rectus dysfunction
- Craniosynostosis

**Management of A/V pattern strabismus**

- Correct oblique overaction if present
  - *Rule of thumb*: Large A/V deviations usually involve oblique overaction
- Focus on primary and reading positions
- If no oblique overaction, correct by displacing the medial and lateral recti according to the mnemonic *MALE*:
  - Transpose the medial recti toward the apex, and the lateral recti toward the empty space.
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. Occurs in about 20% of strabismus cases. Can be secondary to:

**Management of A/V pattern strabismus**
--Correct oblique overaction if present
--*Rule of thumb*: Large A/V deviations usually involve oblique overaction
--Focus on primary and reading positions
--If no oblique overaction, correct by displacing the medial and lateral recti according to the mnemonic *MALE*:

Transpose the *Medial recti* toward the *Apex*, and the *Lateral recti* toward the *Empty space*.
An A or V pattern strabismus is simply one that changes magnitude in up- and downgaze. Occurs in about 20% of strabismus cases. Can be secondary to:

Management of A/V pattern strabismus

- Correct oblique overaction if present
  - Rule of thumb: Large A/V deviations usually involve oblique overaction
- Focus on primary and reading positions
- If no oblique overaction, correct by displacing the medial and lateral recti according to the mnemonic MALE:
  
  Transpose the **M**edial recti toward the **A**pex, and the **L**ateral recti toward the **E**mpty space

- Plan and correct the horizontal deviation independently