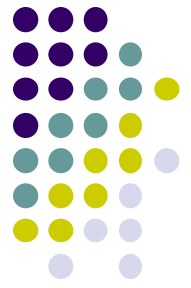
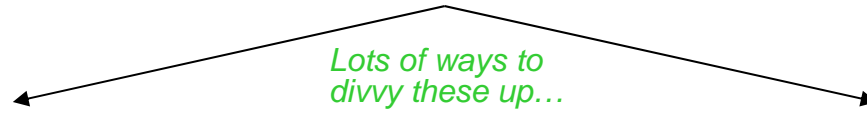


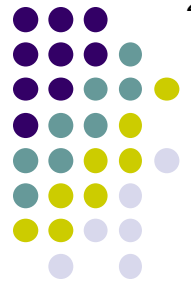
# Typical Optic Neuritis



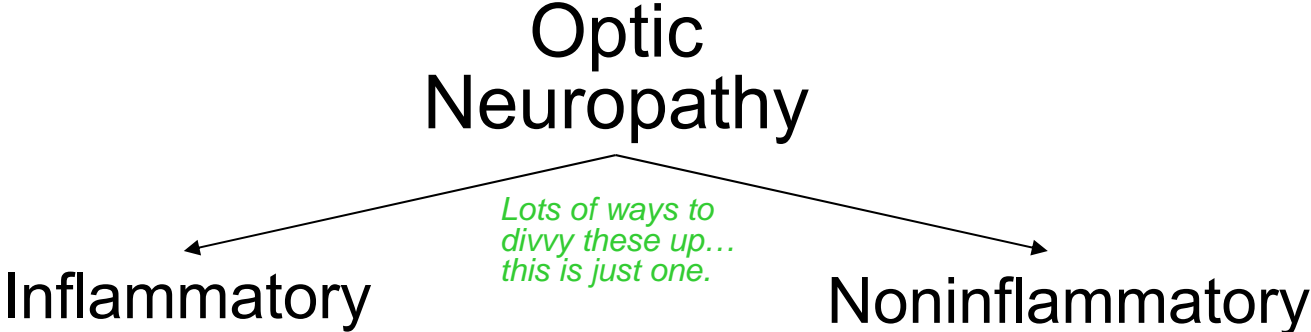
## Optic Neuropathy



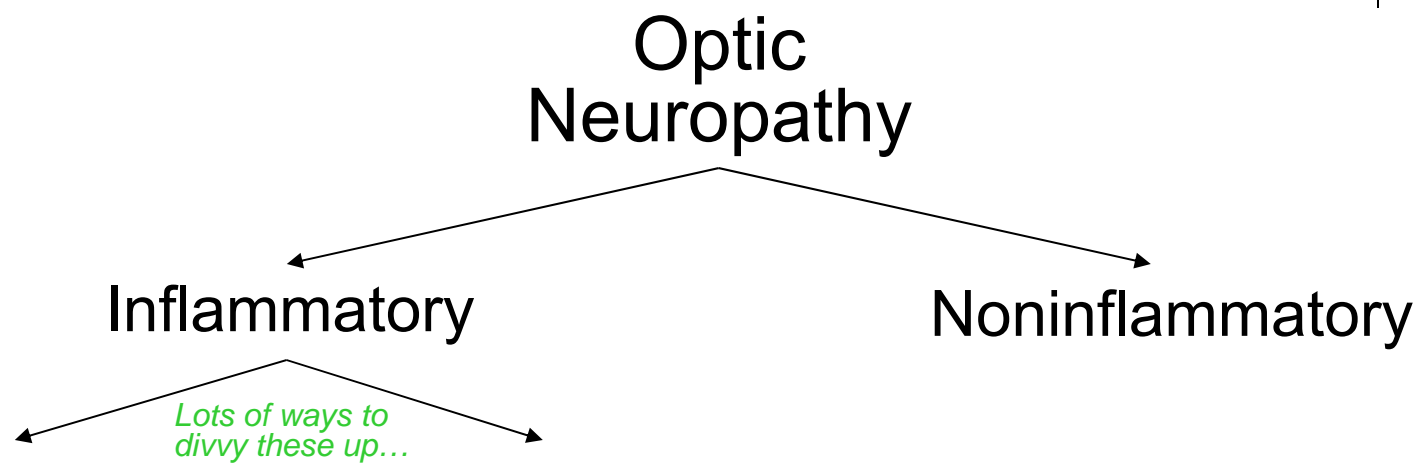
*Lots of ways to divvy these up...*

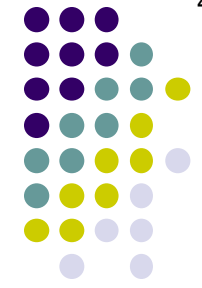


**Typical Optic Neuritis**

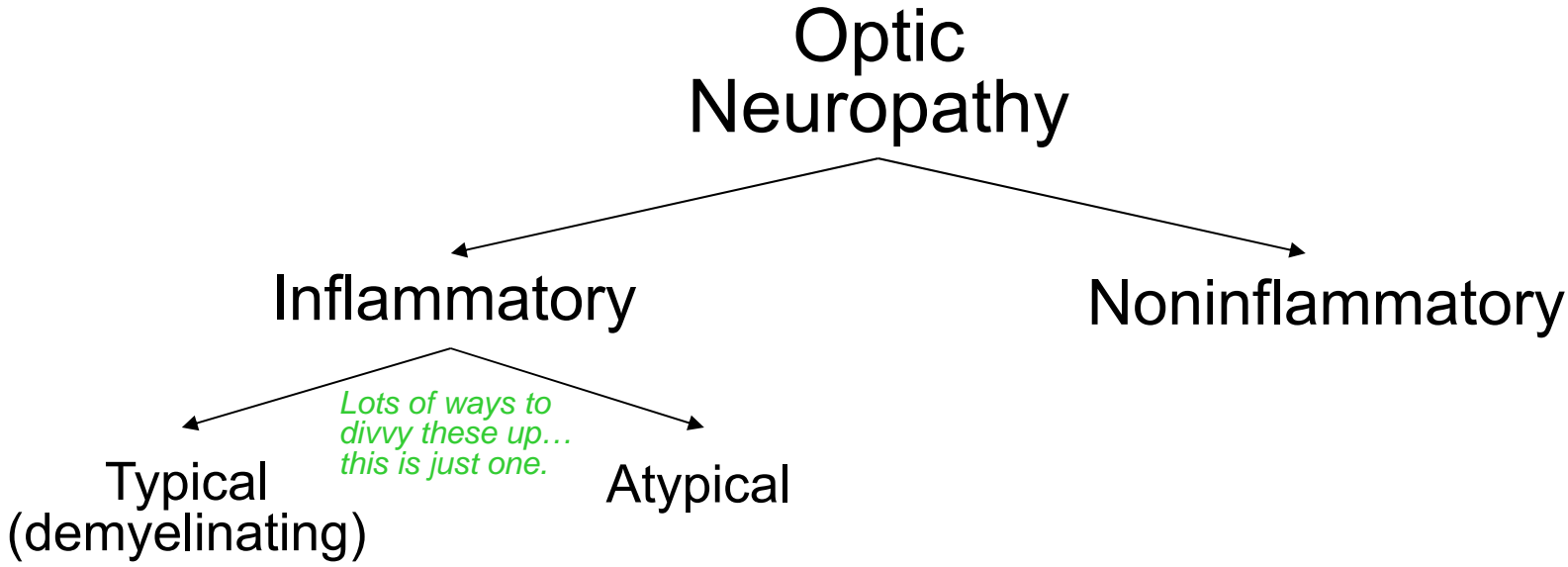


**Typical Optic Neuritis**

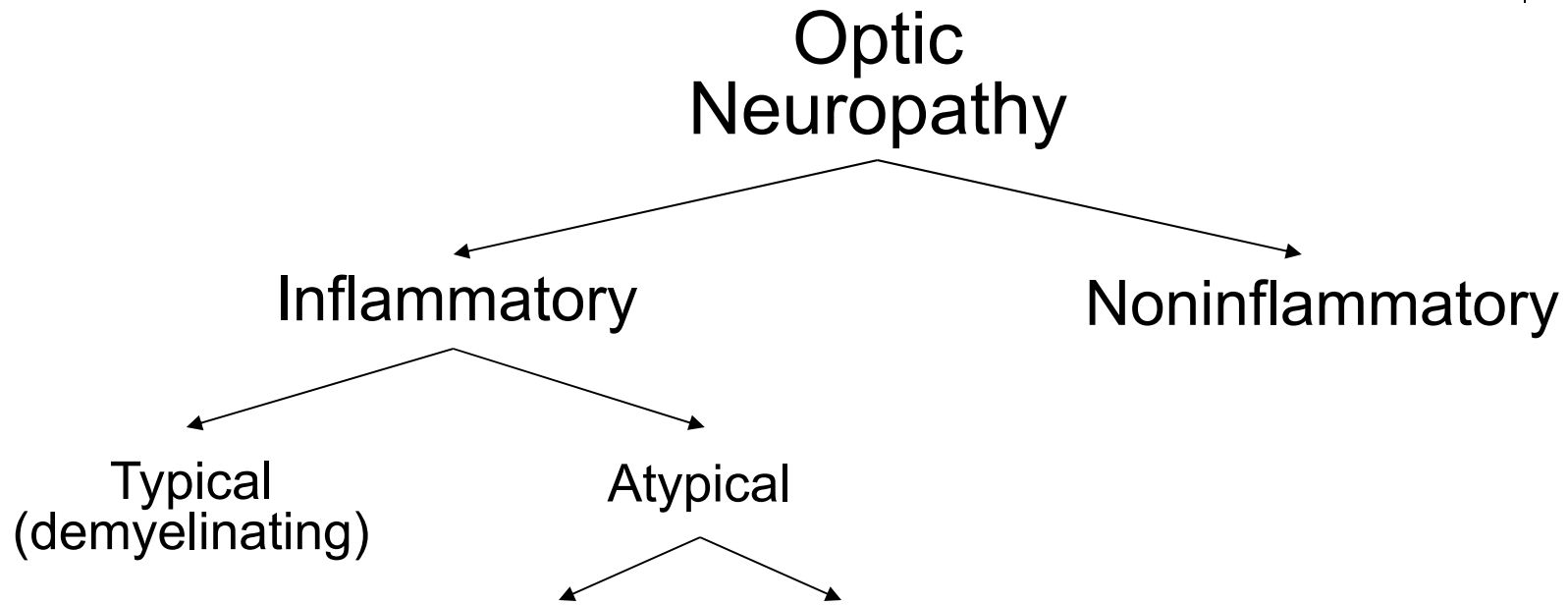




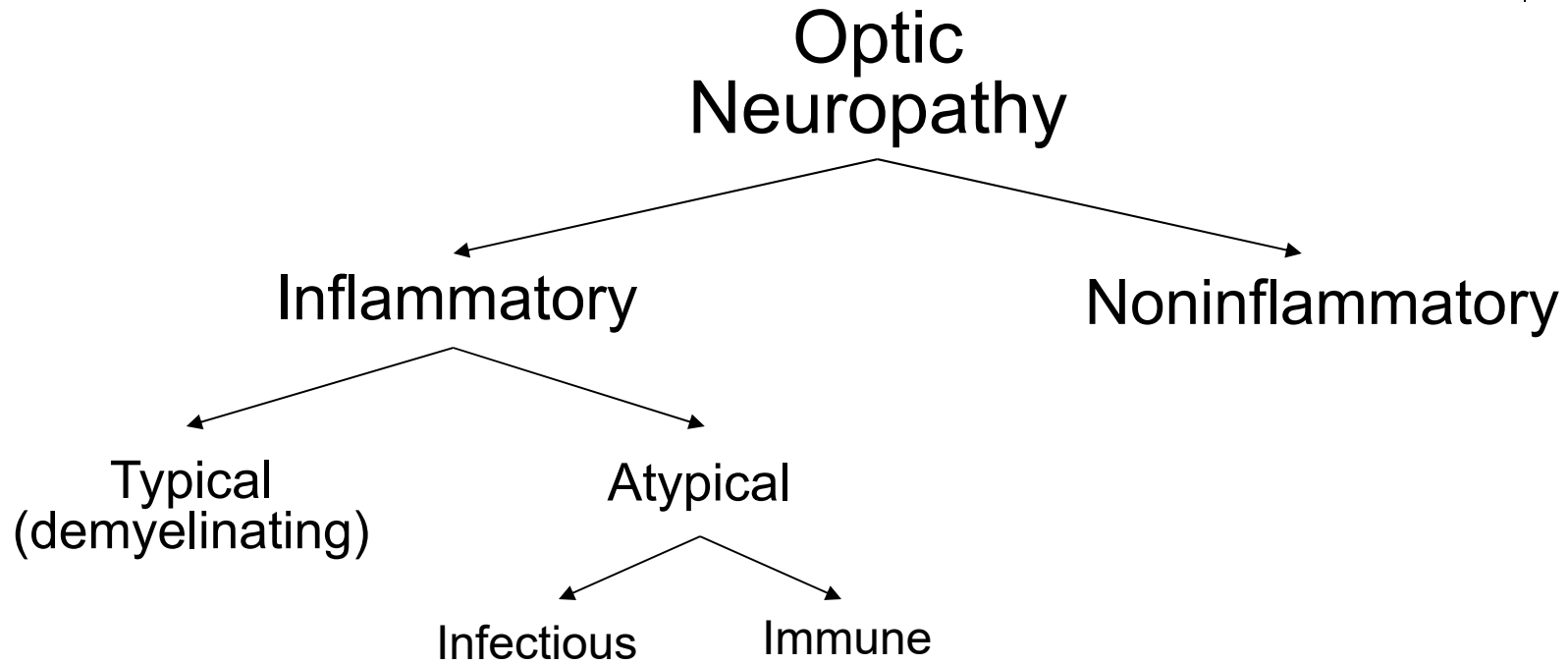
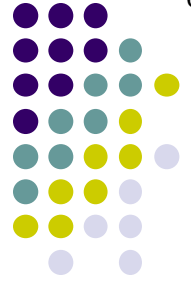
**Typical Optic Neuritis**



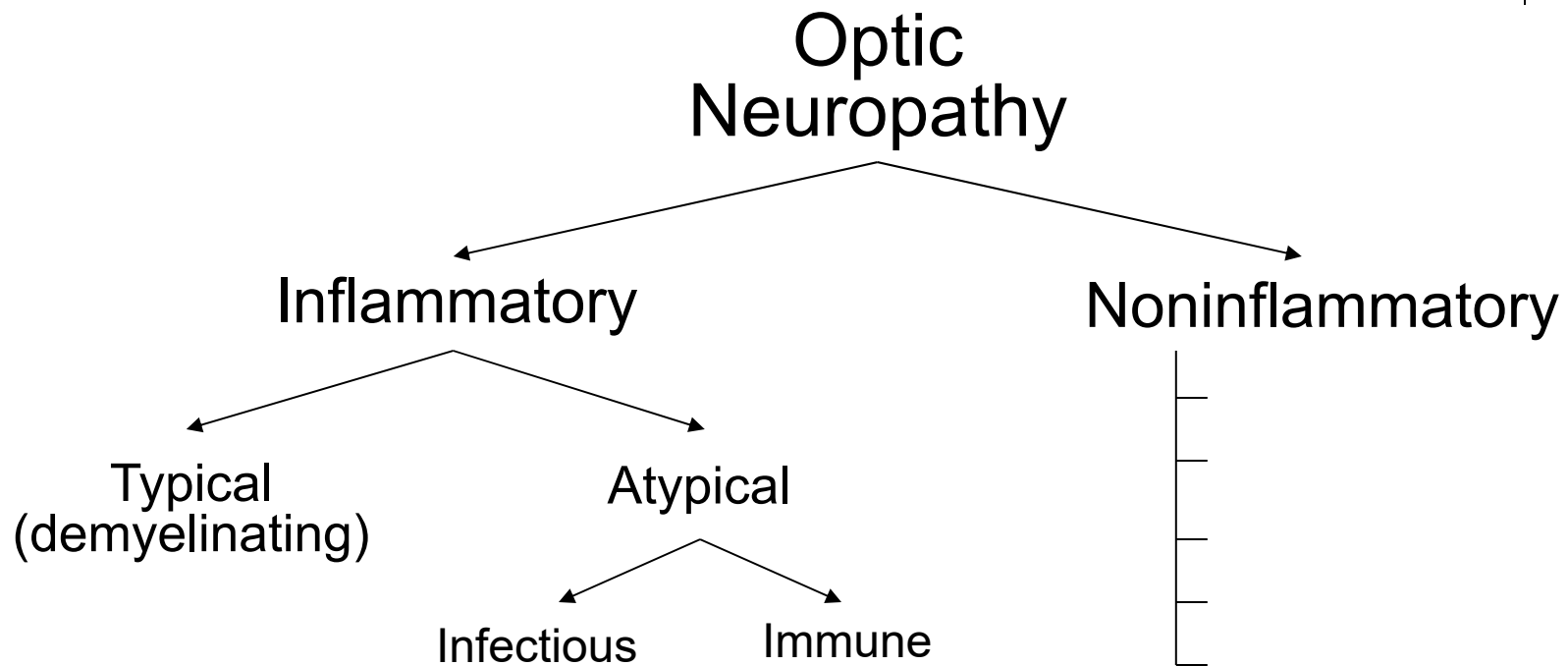
**Typical Optic Neuritis**



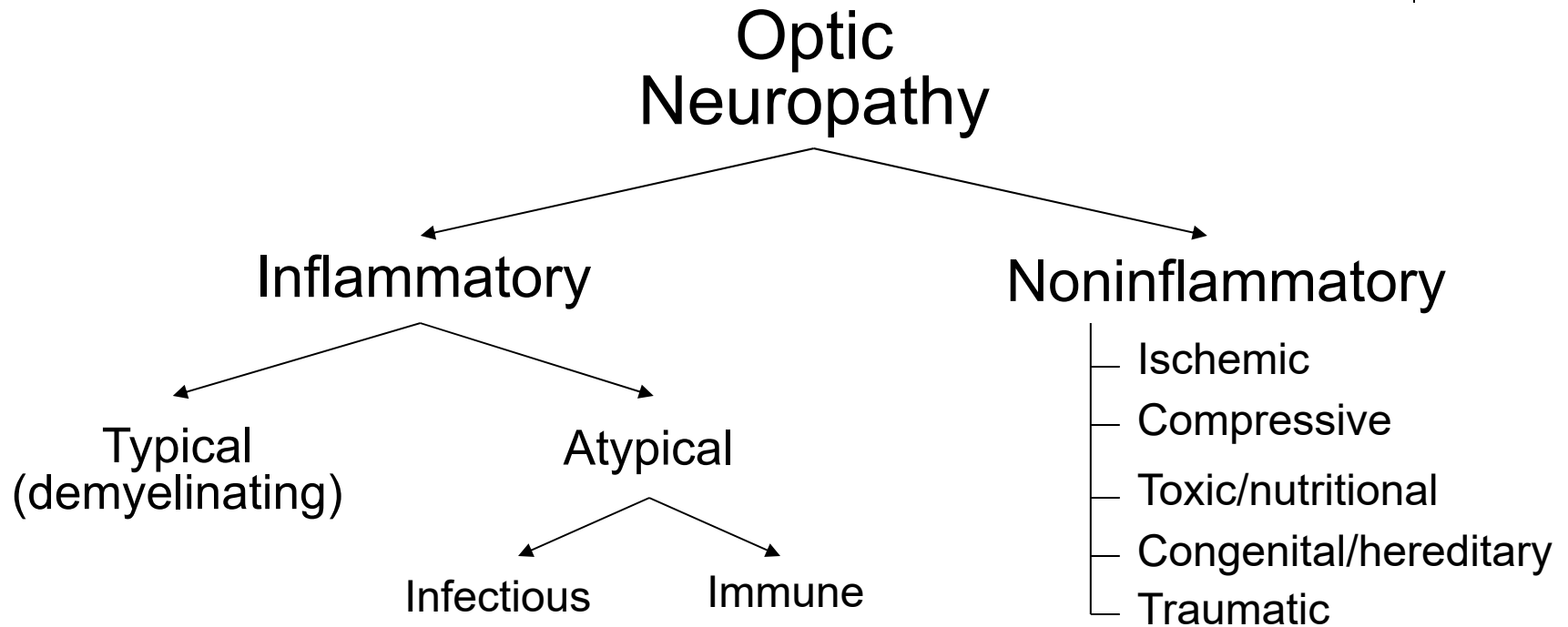
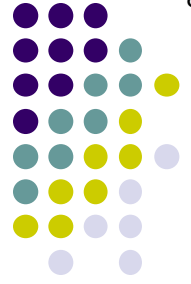
# Typical Optic Neuritis



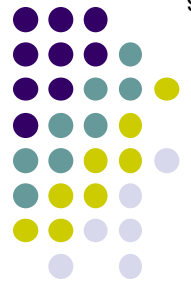
**Typical Optic Neuritis**



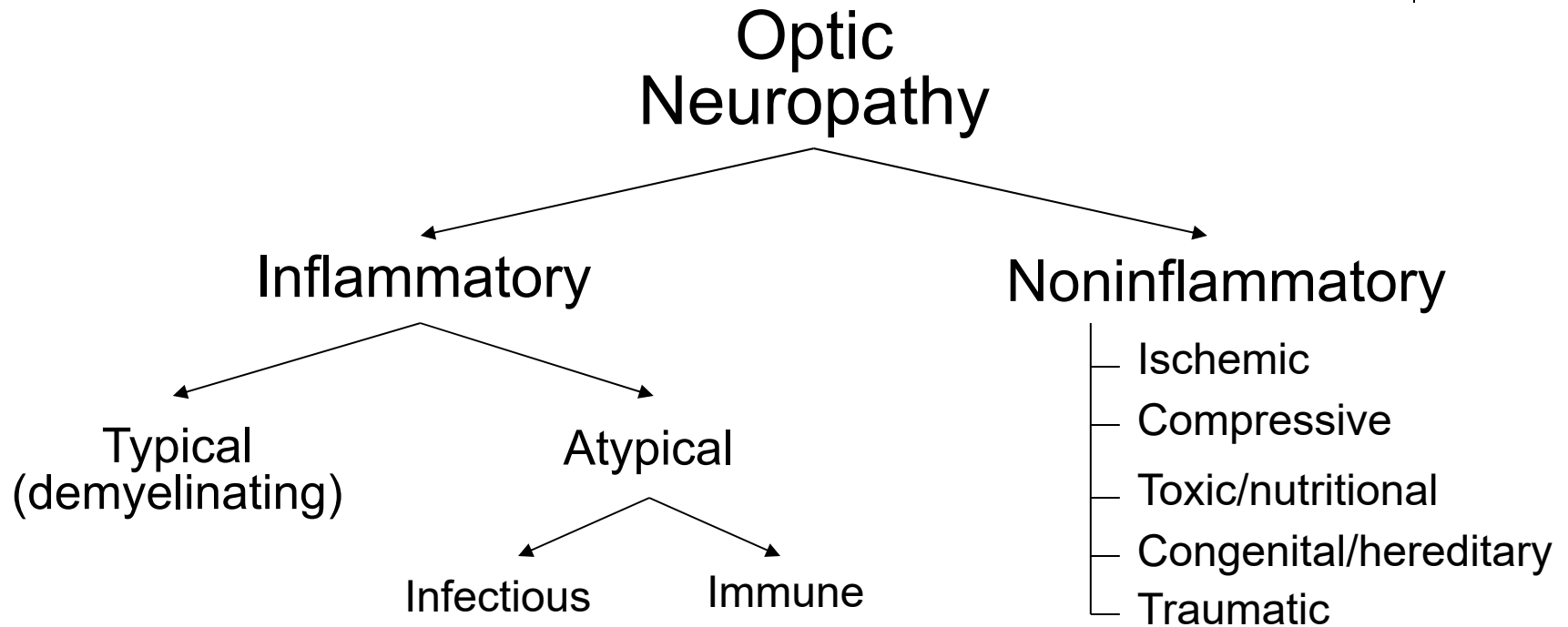
# Typical Optic Neuritis





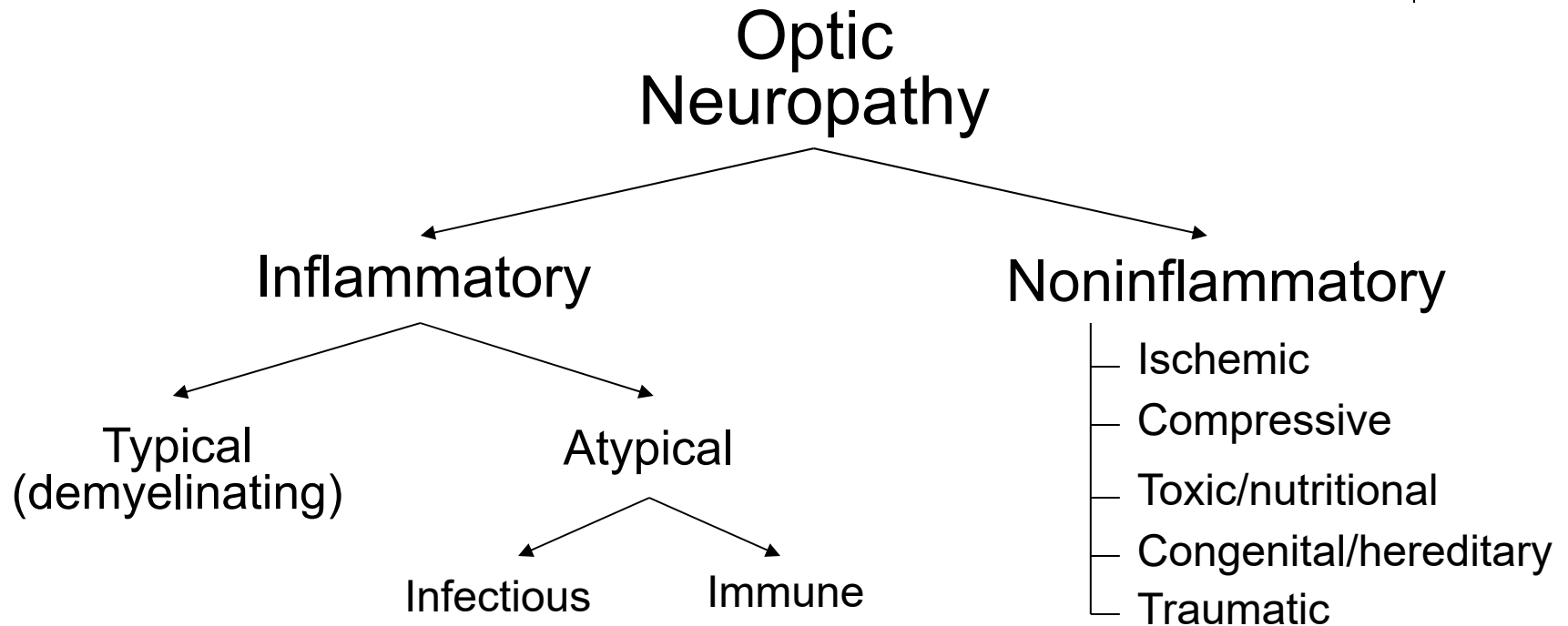


# Typical Optic Neuritis



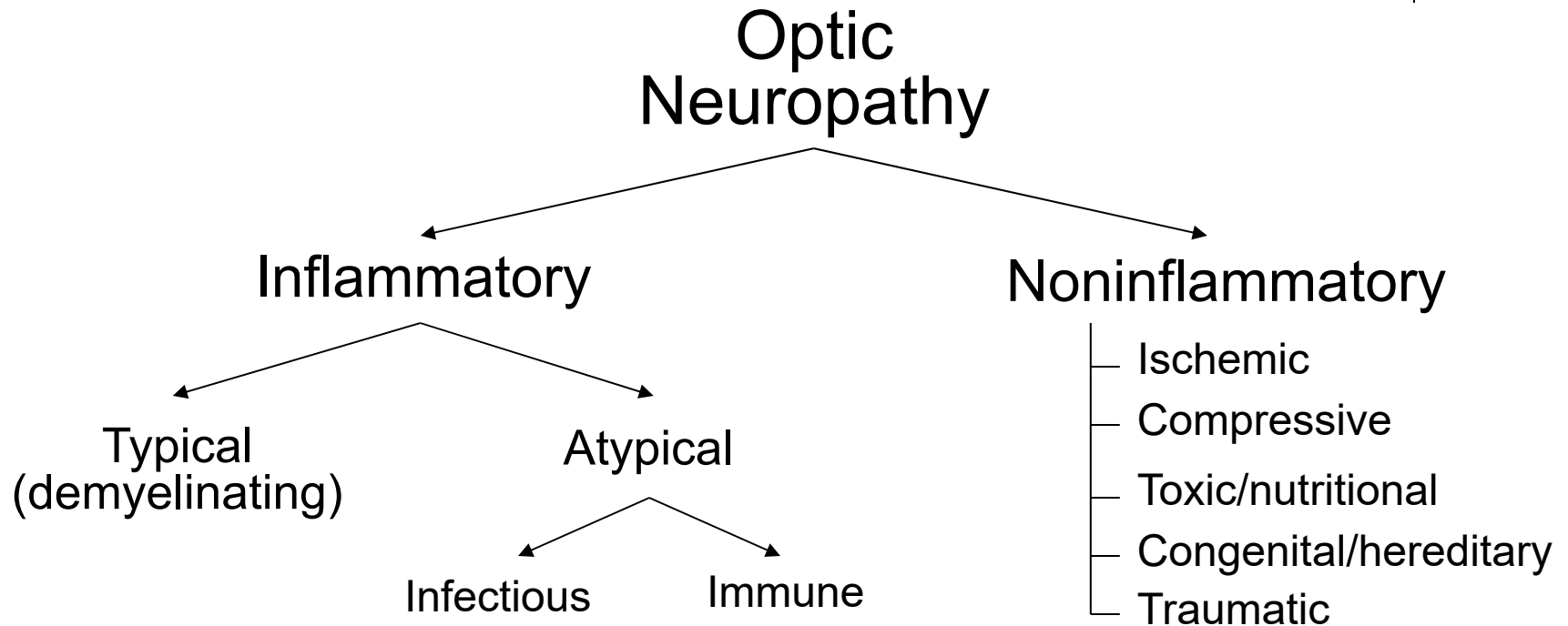
*What is far-and-away the most common type of optic neuropathy?  
Hint...*

## Typical Optic Neuritis



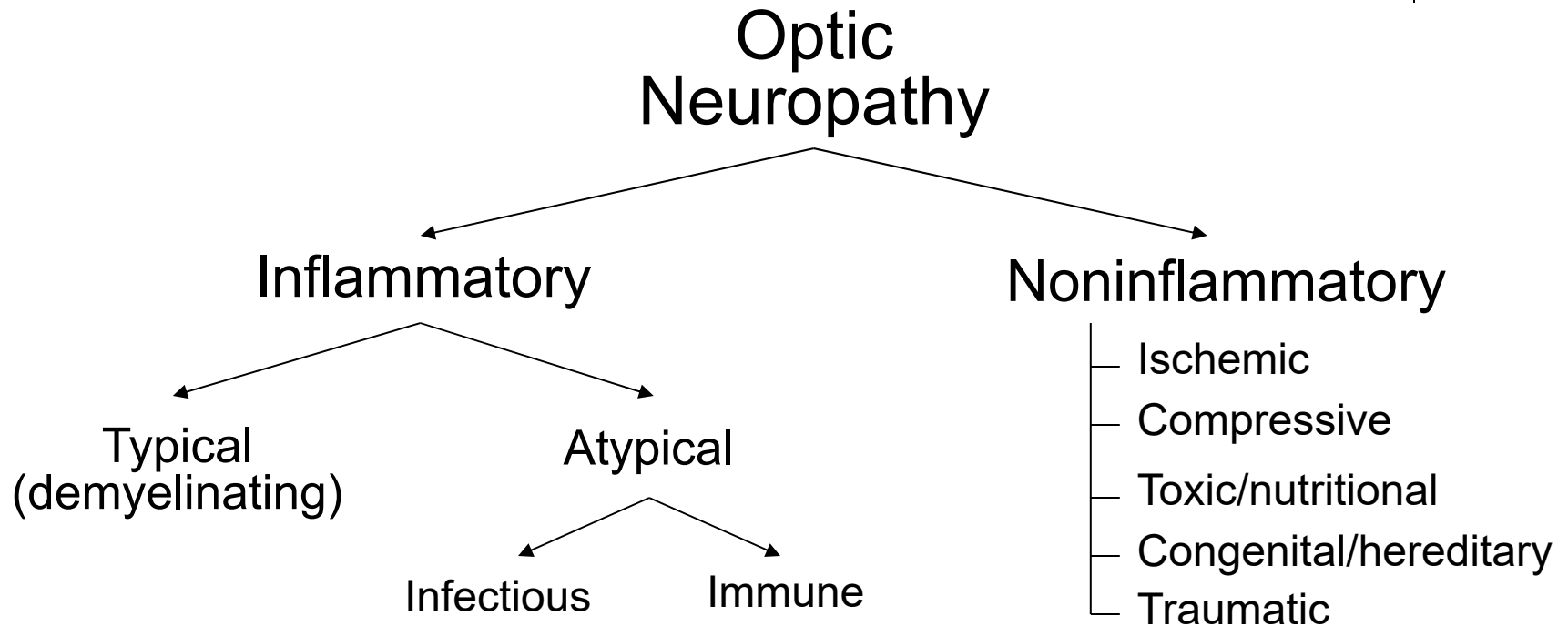
*What is far-and-away the most common type of optic neuropathy?  
Hint...It's not listed on this slide!  
Hint...*

## Typical Optic Neuritis



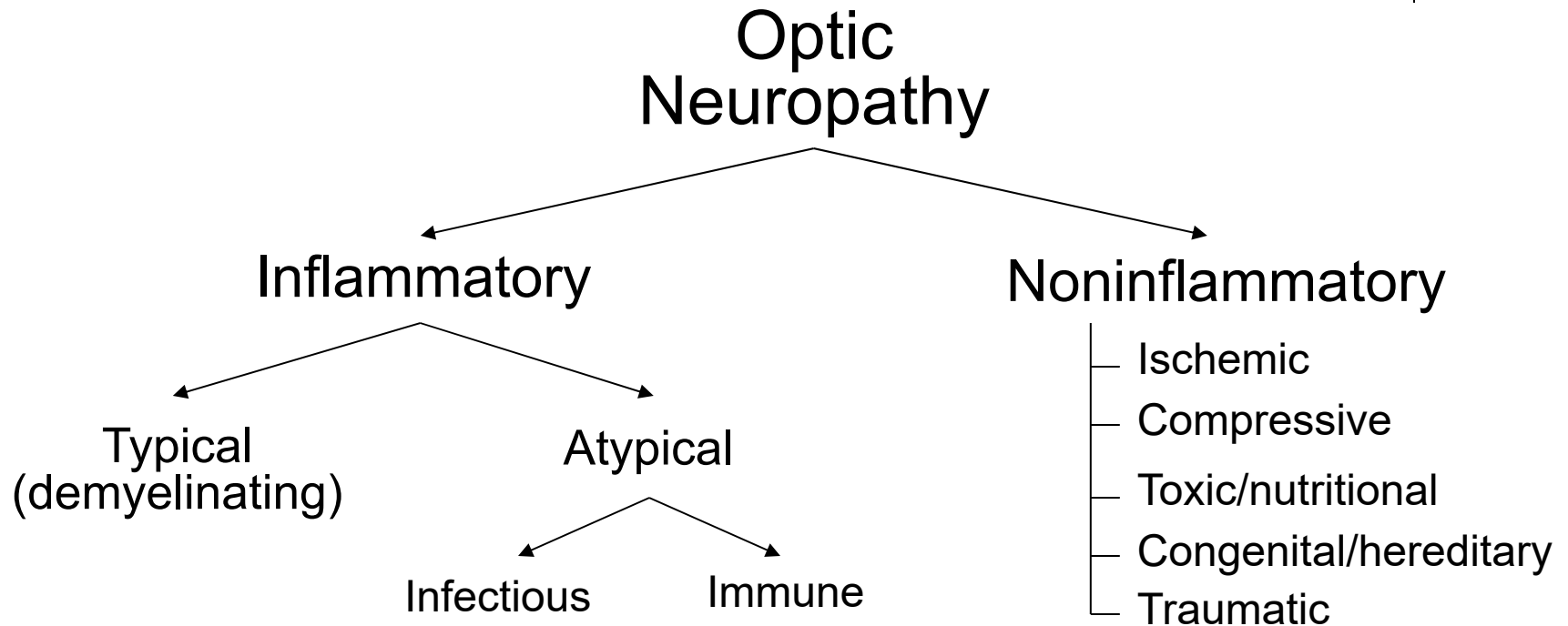
*What is far-and-away the most common type of optic neuropathy?  
Hint...It's not listed on this slide!  
Hint...It's so common, it gets its own ophthalmic subspecialty!  
It's...*

## Typical Optic Neuritis



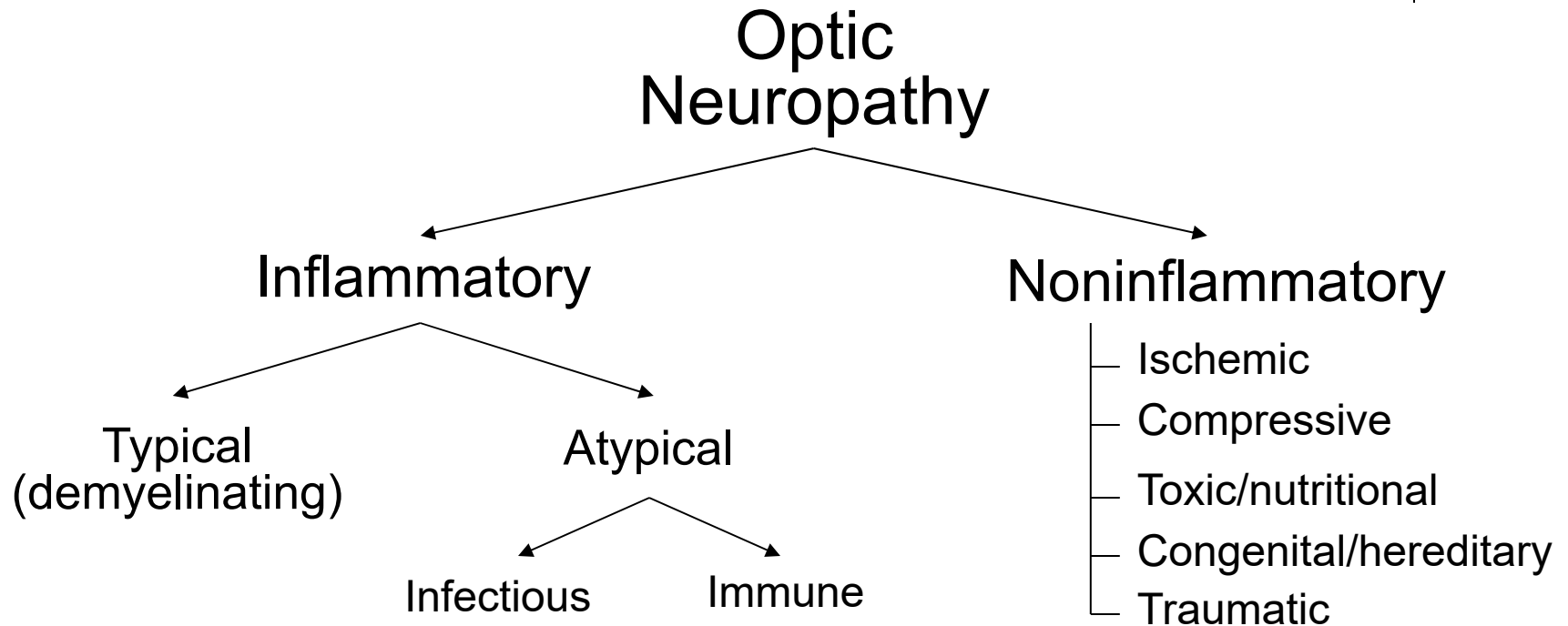
*What is far-and-away the most common type of optic neuropathy?  
Hint...It's not listed on this slide!  
Hint...It's so common, it gets its own ophthalmic subspecialty!  
It's...**Glaucoma** (don't forget—glaucoma is an optic neuropathy!)*

## Typical Optic Neuritis



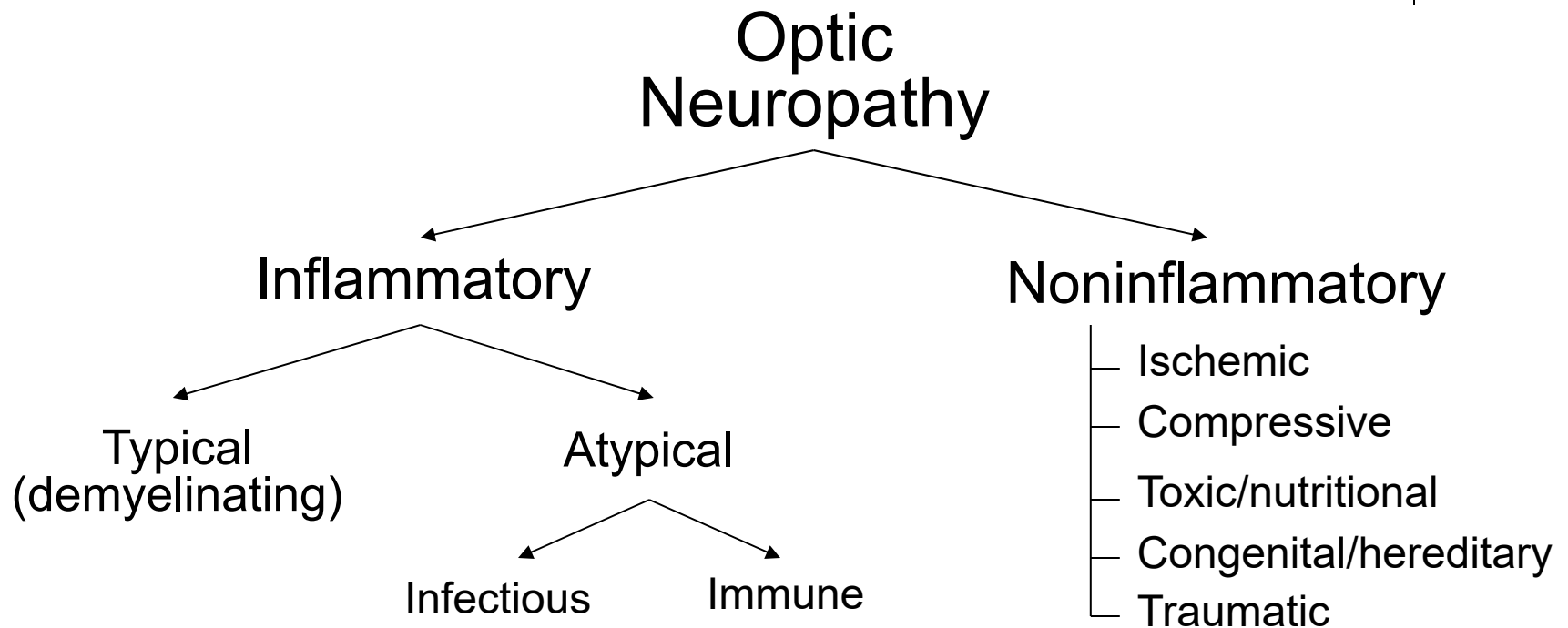
*What exam finding is the sine qua non of unilateral or asymmetric bilateral optic neuropathy?*

## Typical Optic Neuritis



*What exam finding is the sine qua non of unilateral or asymmetric bilateral optic neuropathy?*  
A relative afferent pupillary defect (RAPD)

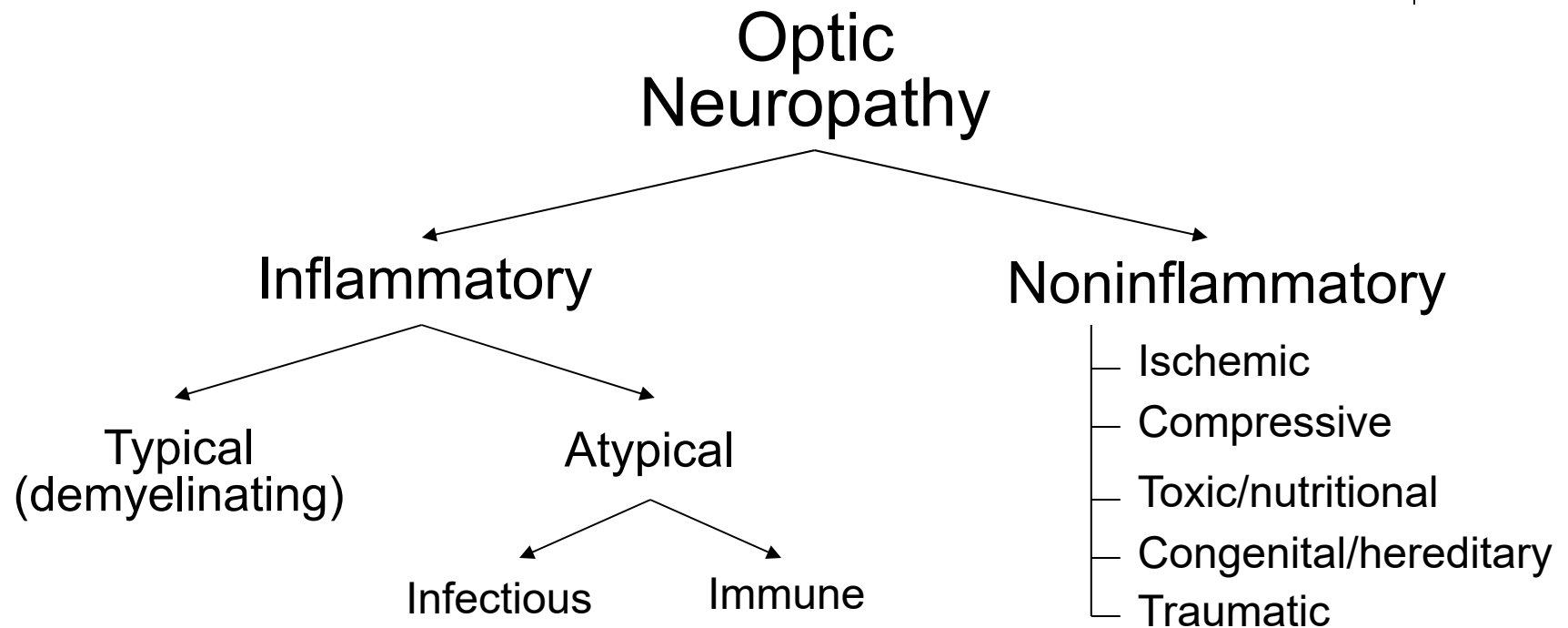
## Typical Optic Neuritis



*What exam finding is the sine qua non of unilateral or asymmetric bilateral optic neuropathy?*  
**A relative afferent pupillary defect (RAPD)**

*What should you do if a presumptive unilateral/asymmetric bilateral ON pt doesn't have an RAPD?*

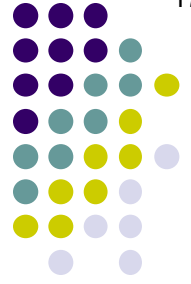
## Typical Optic Neuritis



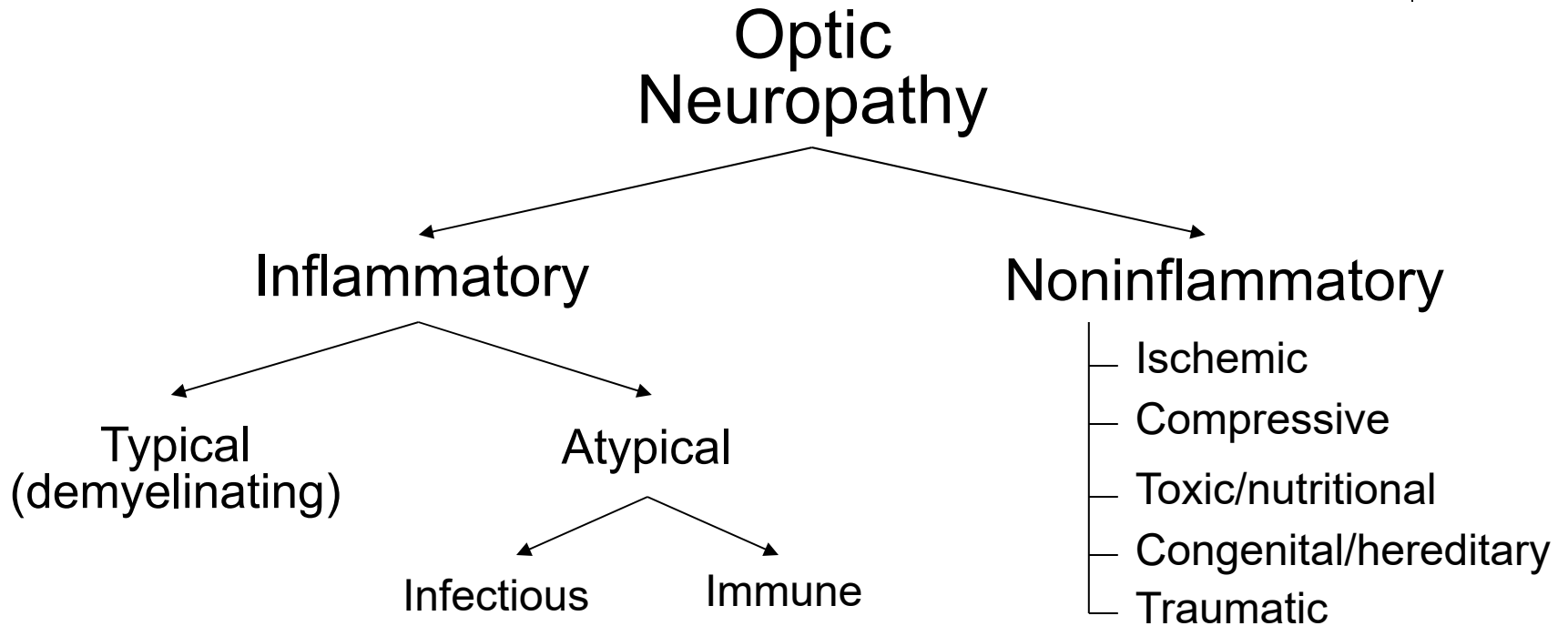
*What exam finding is the sine qua non of unilateral or asymmetric bilateral optic neuropathy?*  
**A relative afferent pupillary defect (RAPD)**

*What should you do if a presumptive unilateral/asymmetric bilateral ON pt doesn't have an RAPD?*  
 You should question the diagnosis





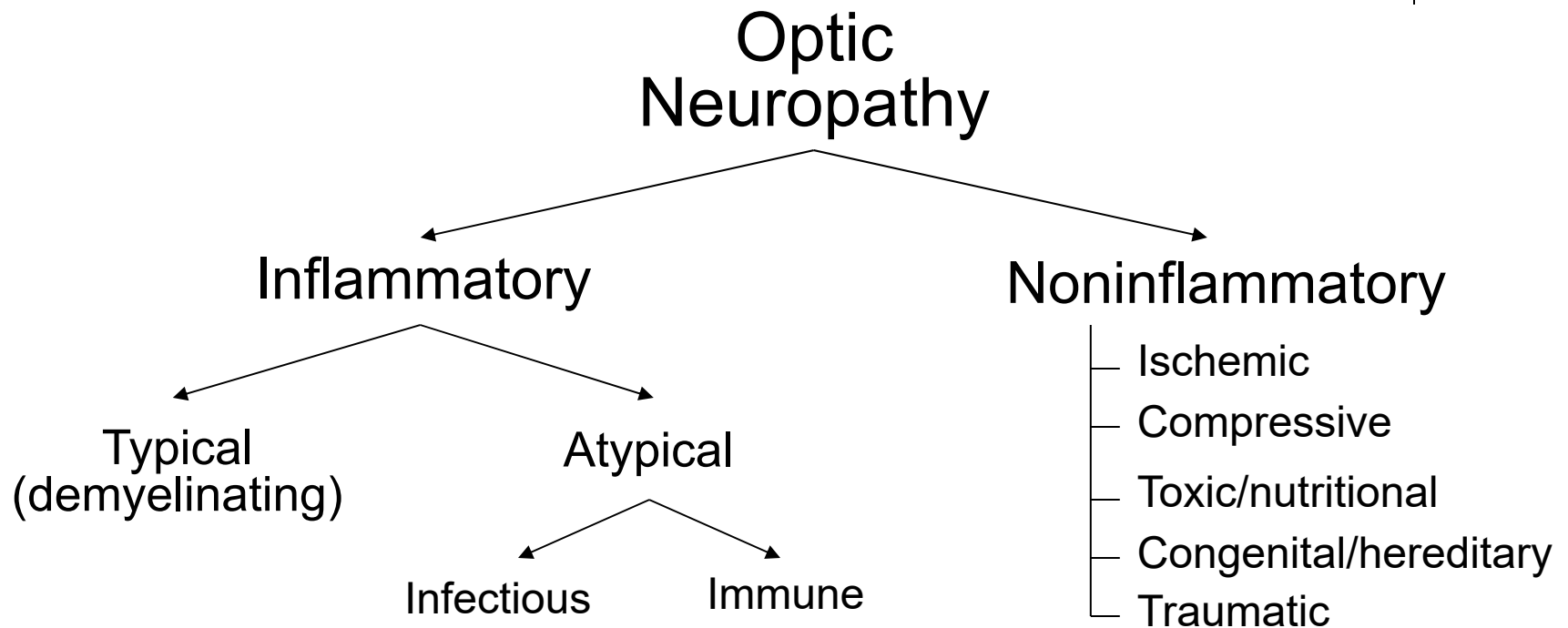
# Typical Optic Neuritis



*What functional abnormalities are likely to be found in a pt with an optic neuropathy?*

- Decreased two words
- Abnormal two diff words
- Impaired two diff diff words

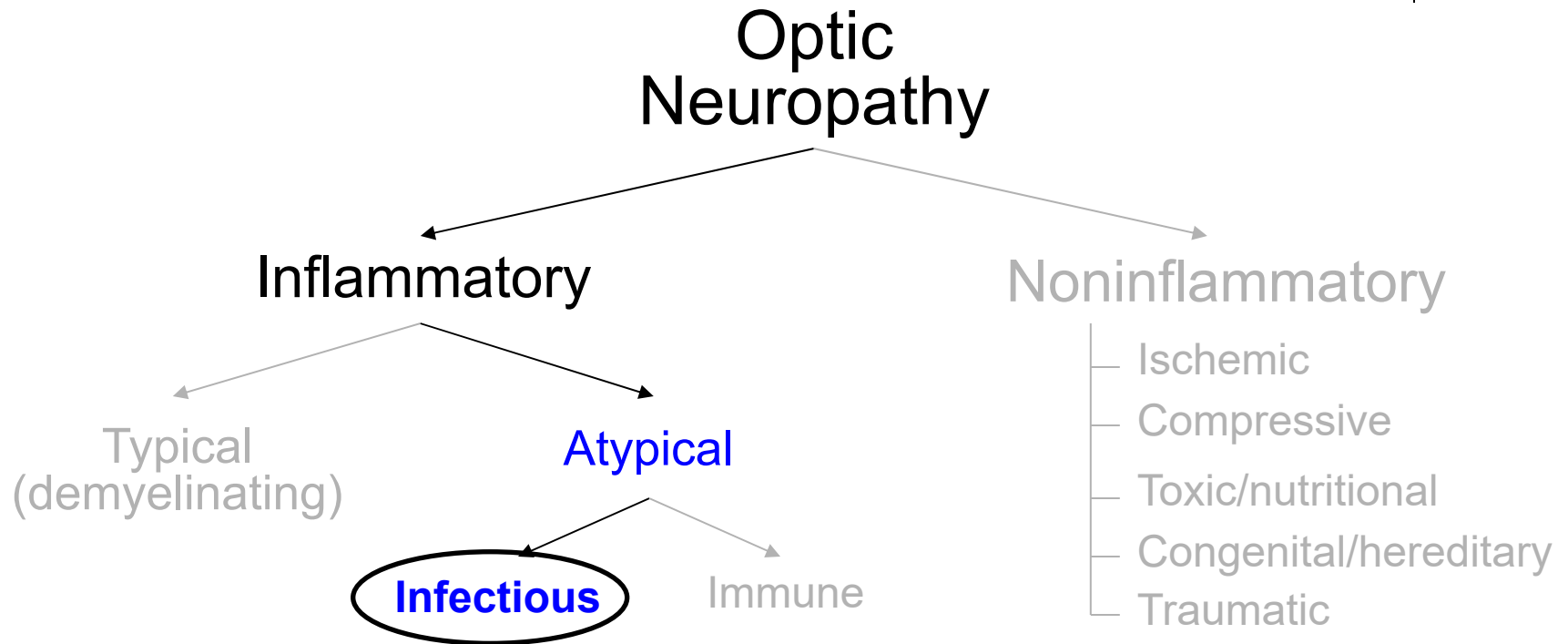
## Typical Optic Neuritis



*What functional abnormalities are likely to be found in a pt with an optic neuropathy?*

- Decreased **central acuity**
- Abnormal **visual fields**
- Impaired **color vision**

## Typical Optic Neuritis

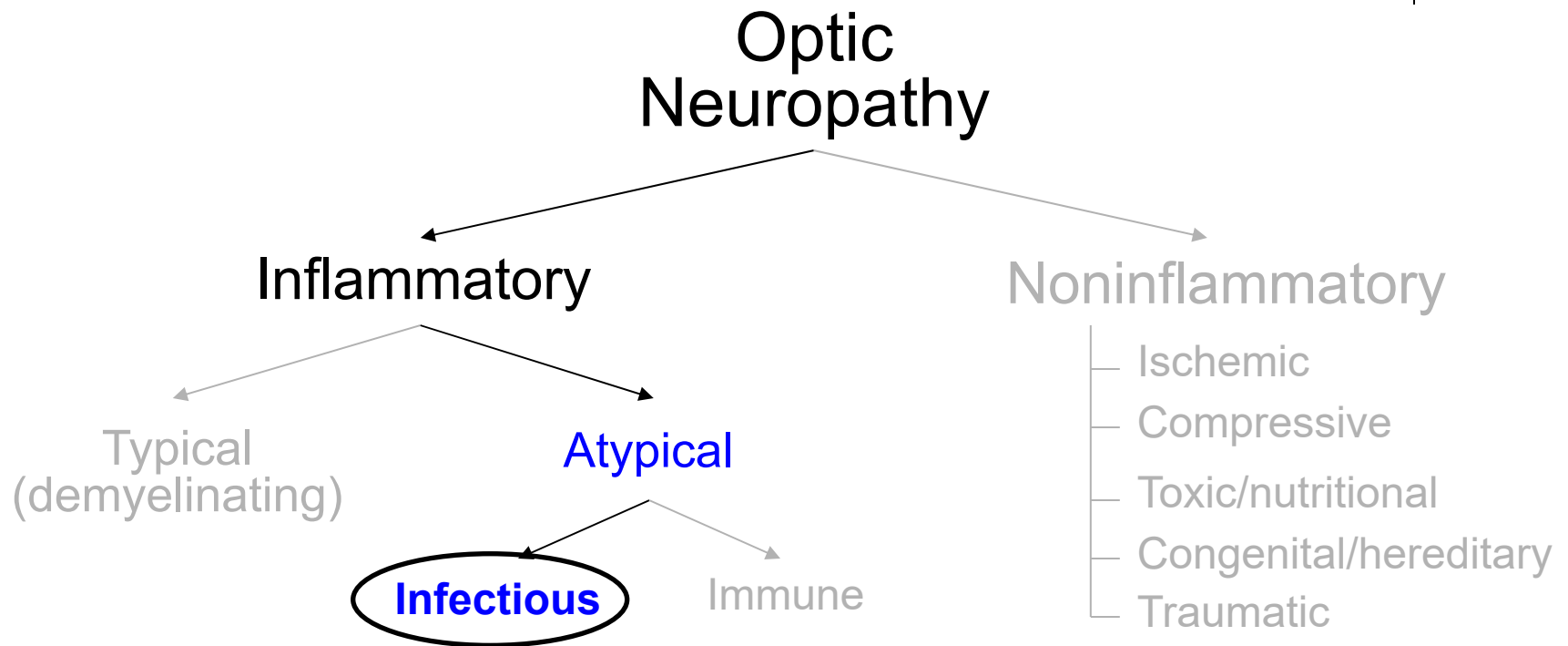


Name 3 **infectious** causes of atypical ON:

- 1)
- 2)
- 3)

(There are many others, of course)

## Typical Optic Neuritis



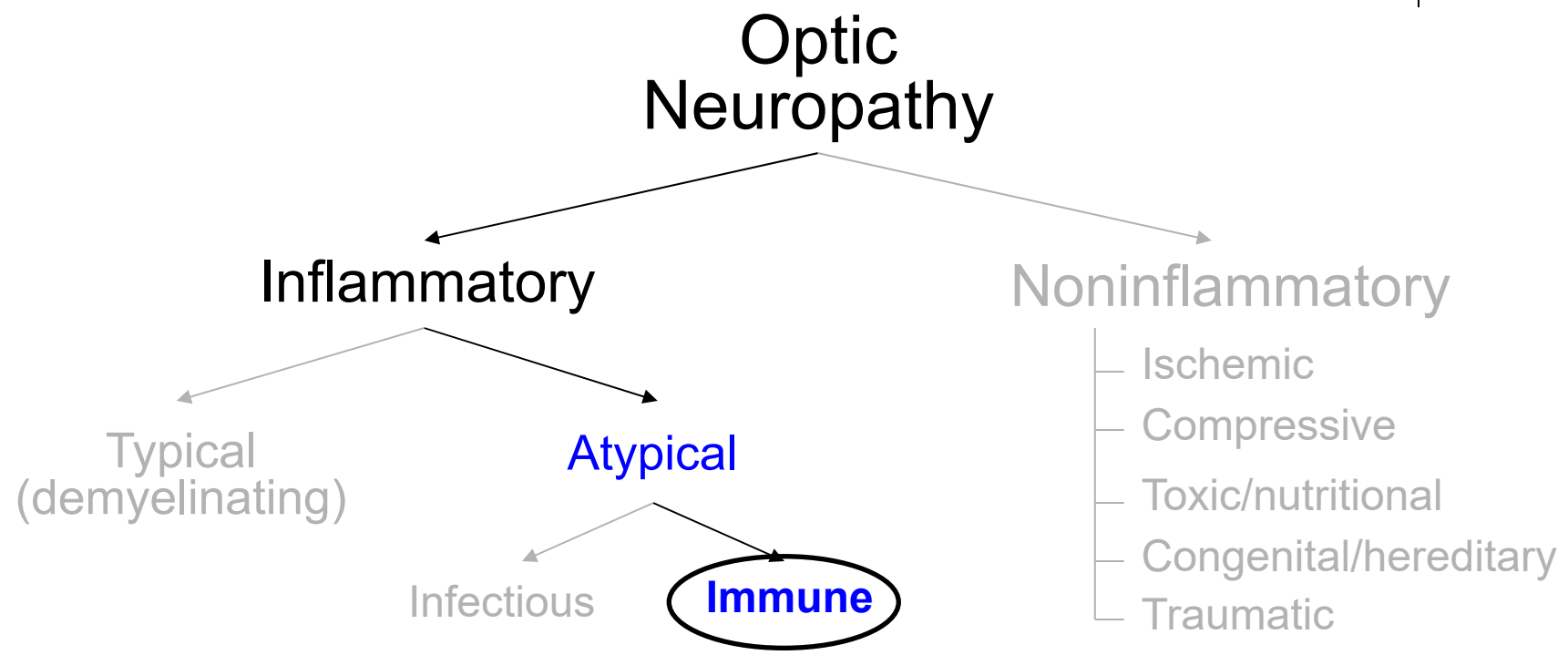
Name 3 **infectious** causes of atypical ON:

- 1) Lues (syphilis)
- 2) TB
- 3) Lyme

(There are many others, of course)

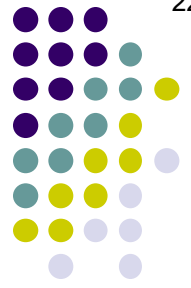


# Typical Optic Neuritis

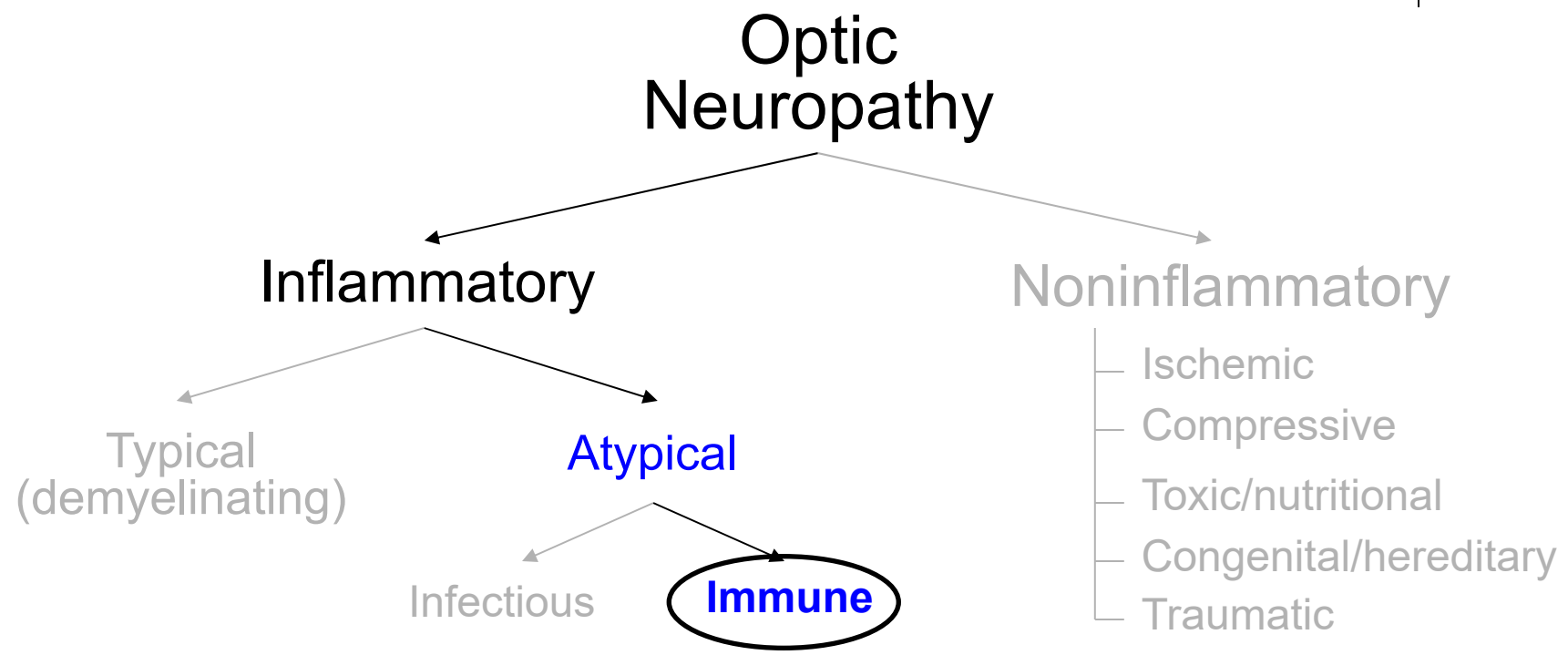


*Name 3 immune-related causes of atypical ON:*  
1)  
2)  
3)

(There are many others, of course)

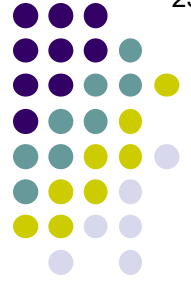


# Typical Optic Neuritis

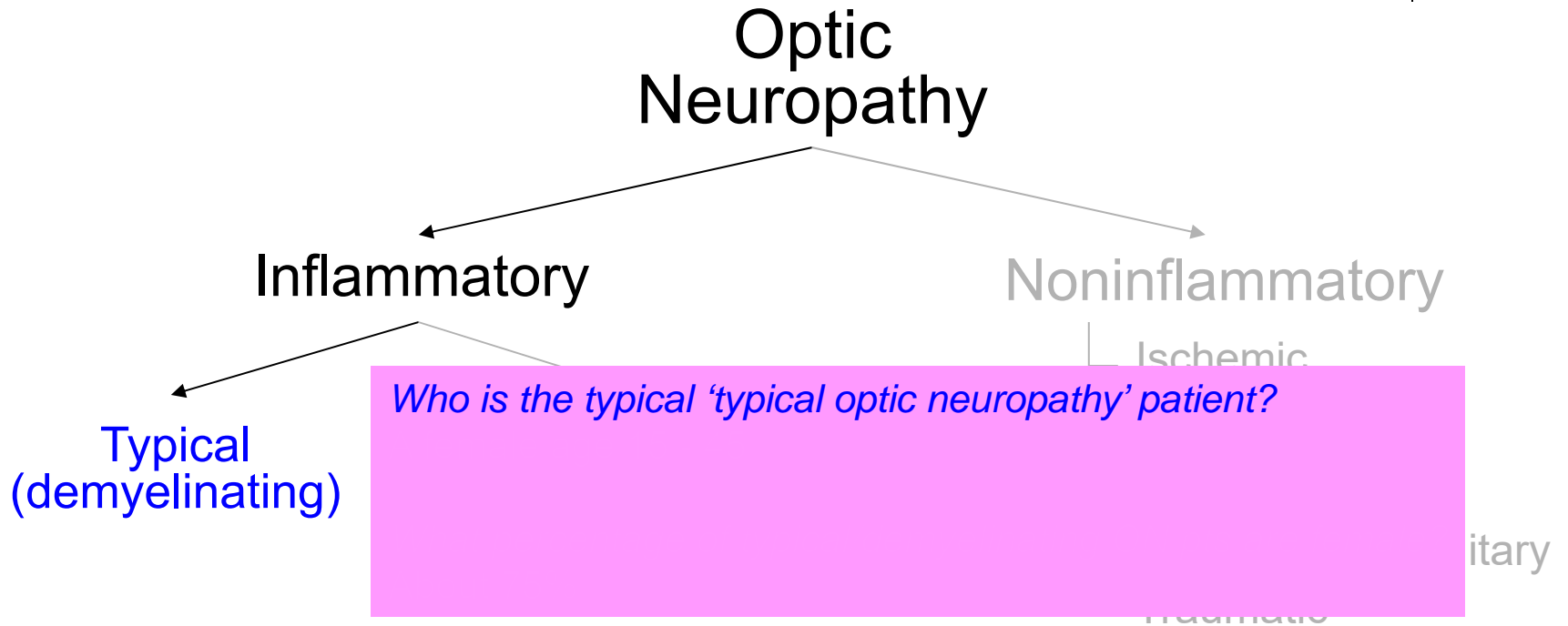


*Name 3 immune-related causes of atypical ON:*  
1) Sarcoid  
2) SLE  
3) Wegener's

(There are many others, of course)

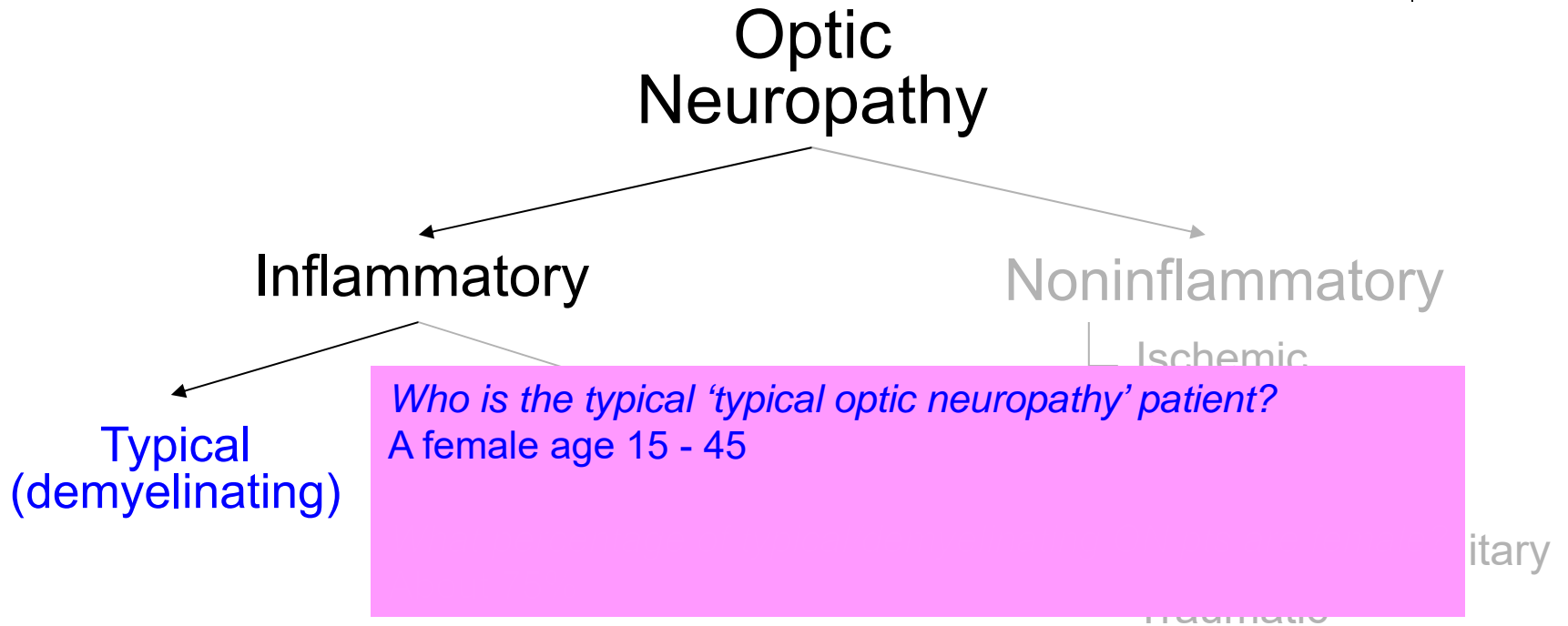


# Typical Optic Neuritis

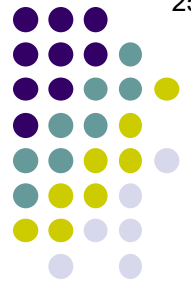




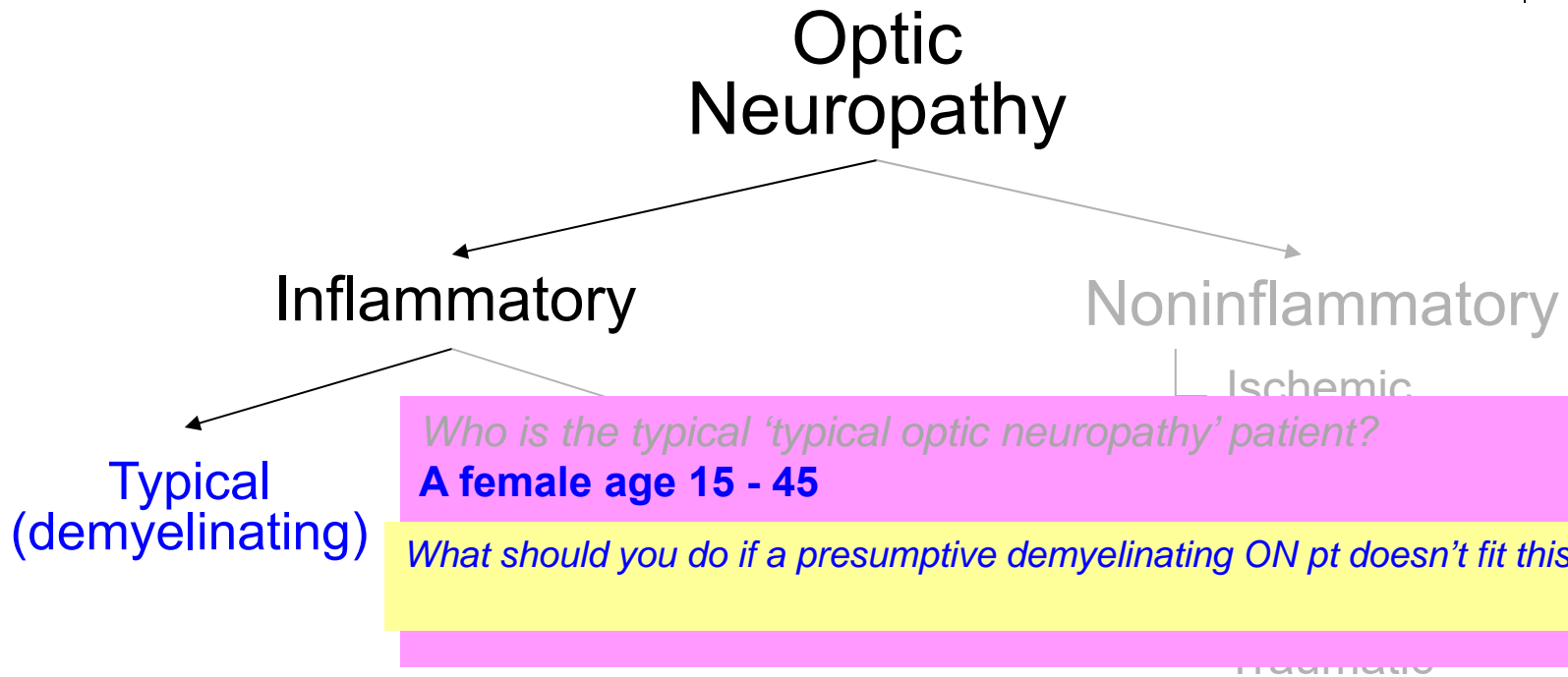
# Typical Optic Neuritis

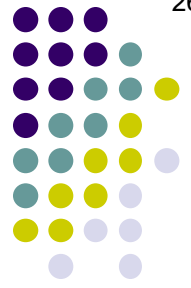






# Typical Optic Neuritis





# Typical Optic Neuritis

## Optic Neuropathy

Inflammatory

Noninflammatory

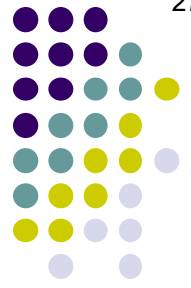
Ischemic

Typical  
(demyelinating)

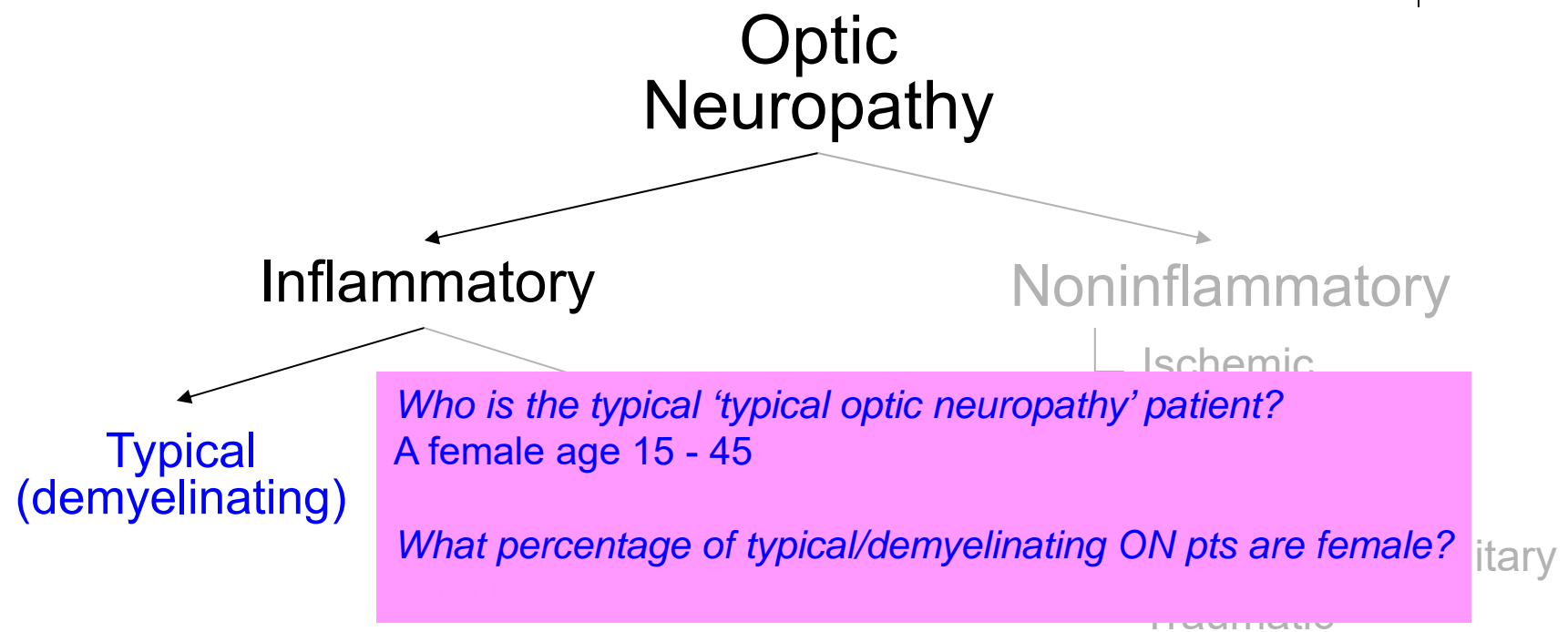
Who is the typical 'typical optic neuropathy' patient?  
**A female age 15 - 45**

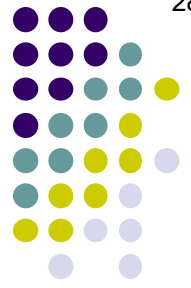
What should you do if a presumptive demyelinating ON pt doesn't fit this profile?  
You should question the diagnosis

Pragmatic

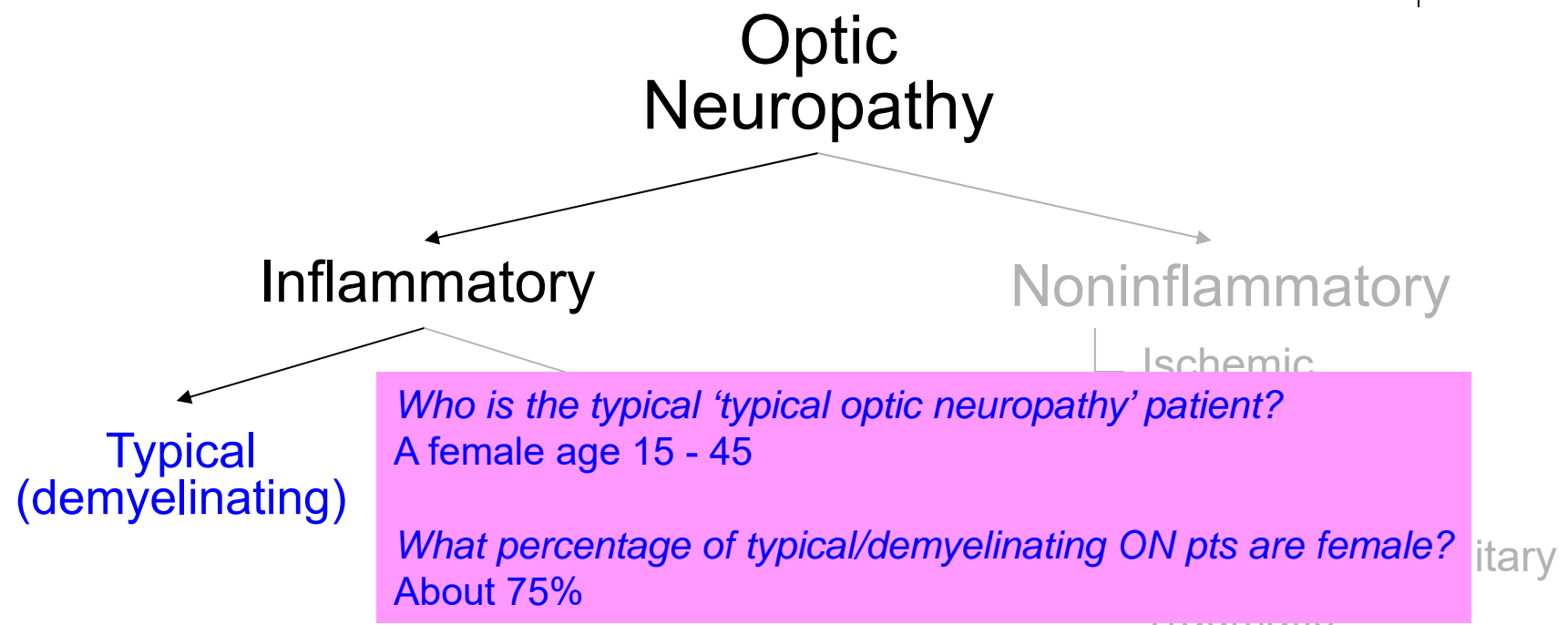


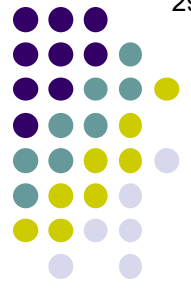
# Typical Optic Neuritis



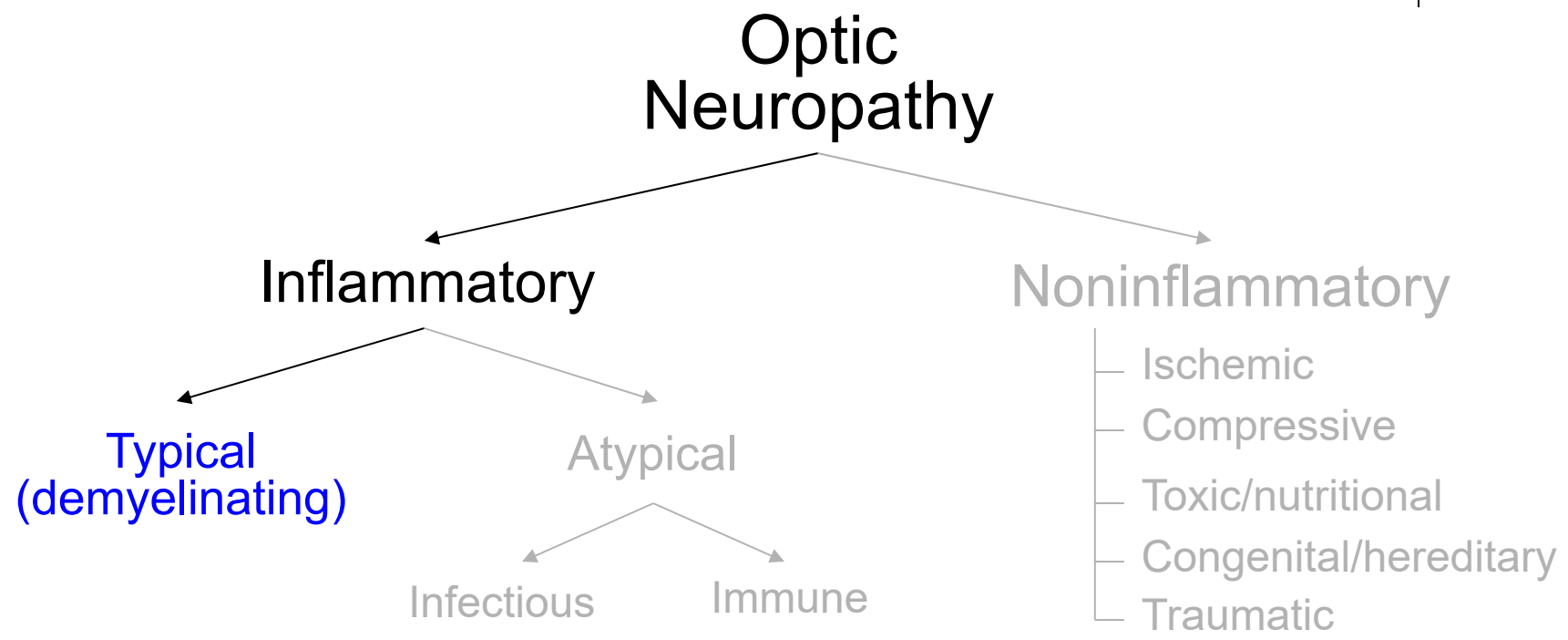


# Typical Optic Neuritis



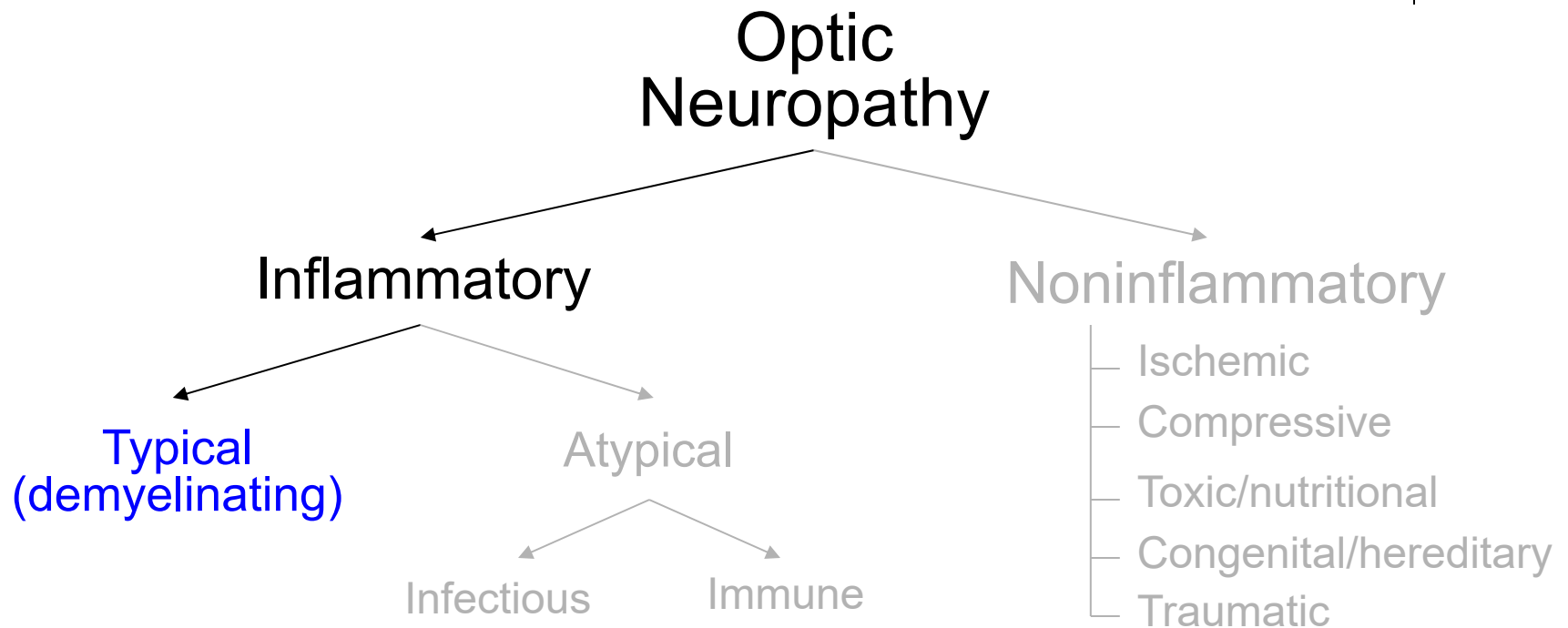


# Typical Optic Neuritis



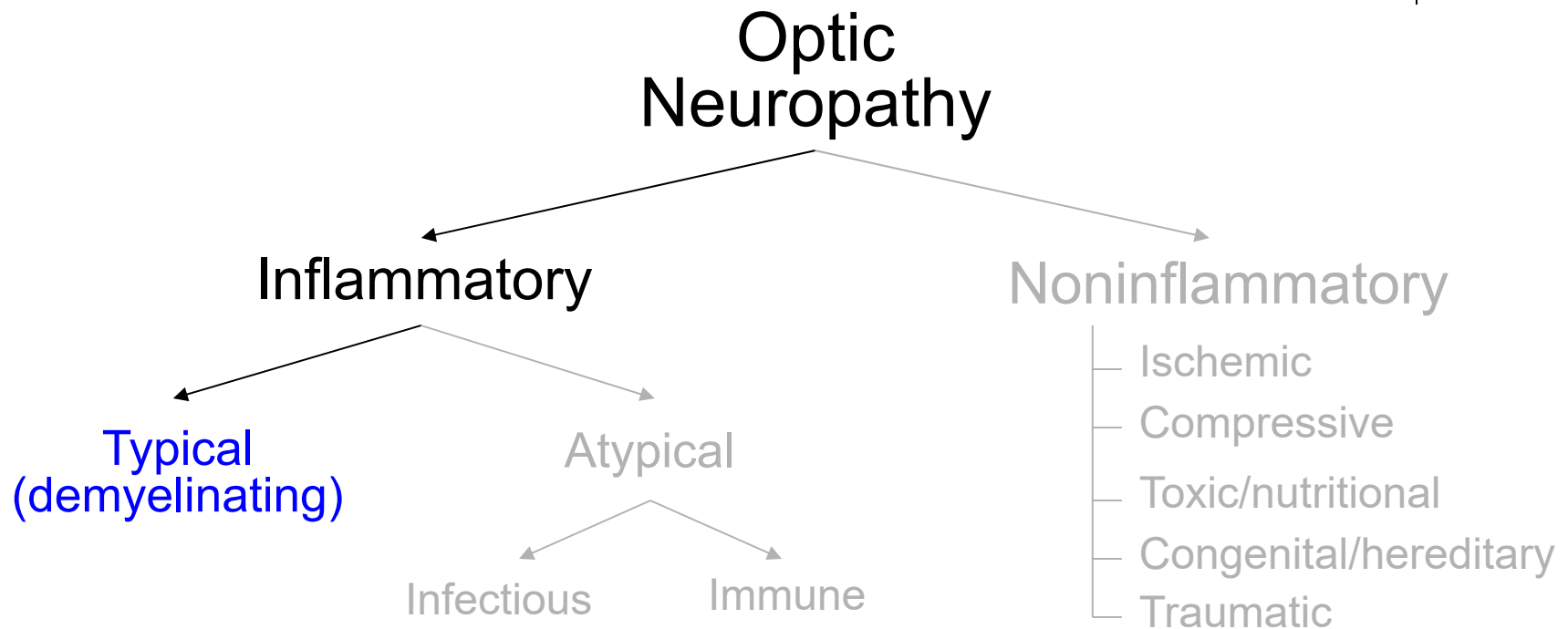
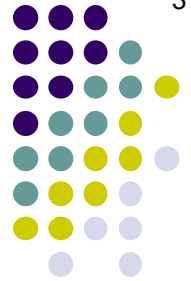
*With what disease is demyelinating optic neuropathy associated?*

## Typical Optic Neuritis



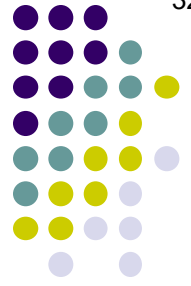
*With what disease is demyelinating optic neuropathy associated?*  
Multiple sclerosis (MS)

## Typical Optic Neuritis

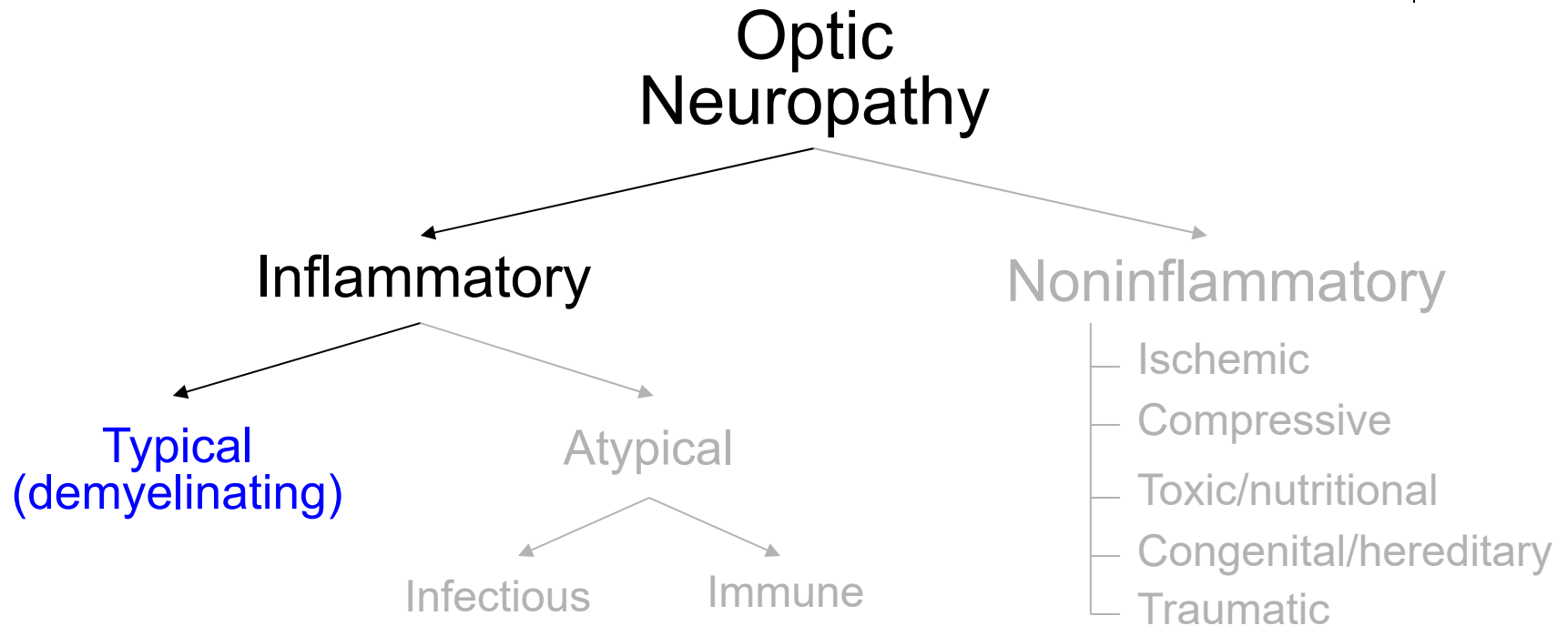


*With what disease is demyelinating optic neuropathy associated?*  
Multiple sclerosis (MS)

*Is it always accompanied or followed by MS?*



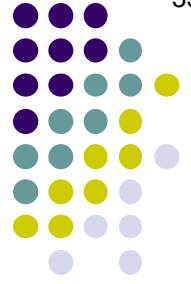
## Typical Optic Neuritis



*With what disease is demyelinating optic neuropathy associated?*  
Multiple sclerosis (MS)

*Is it always accompanied or followed by MS?*  
No, but the lifetime risk of developing MS is high





# Typical Optic Neuritis

## Optic Neuropathy

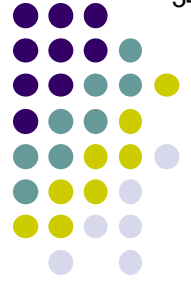
Inflammatory

Noninflammatory

Typical  
(demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*

ary



# Typical Optic Neuritis

## Optic Neuropathy

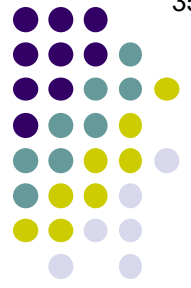
Inflammatory

Noninflammatory

Typical  
(demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*  
Unilateral vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

ary



# Typical Optic Neuritis

## Optic Neuropathy

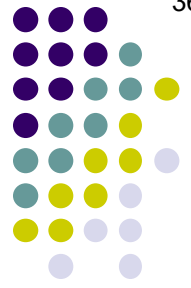
Inflammatory

Noninflammatory

Typical  
(demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*  
Bilateral vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

*What percent of typical optic neuritis pts present with **bilateral** vision loss?*



# Typical Optic Neuritis

## Optic Neuropathy

Inflammatory

Noninflammatory

Typical  
(demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*  
Bilateral vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

*What percent of typical optic neuritis pts present with **bilateral** vision loss?*  
Less than 1% of adult optic neuritis pts present bilaterally



# Typical Optic Neuritis

## Optic Neuropathy

Inflammatory

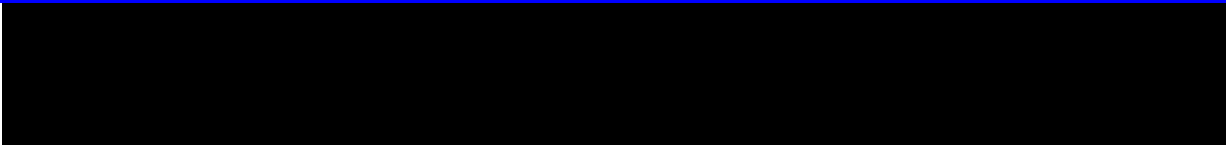
Noninflammatory

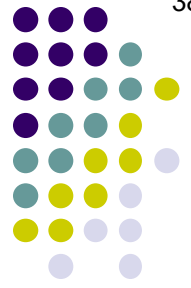
Typical (demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*  
Bilateral vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

*What percent of typical optic neuritis pts present with **bilateral** vision loss?*  
Less than 1% of adult optic neuritis pts present bilaterally

*There is a subpopulation of optic neuritis pts for whom bilateral presentation is somewhat more common--what is that population?*





# Typical Optic Neuritis

## Optic Neuropathy

Inflammatory

Noninflammatory

Typical  
(demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*  
Bilateral vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

*What percent of typical optic neuritis pts present with **bilateral** vision loss?*  
Less than 1% of adult optic neuritis pts present bilaterally

*There is a subpopulation of optic neuritis pts for whom bilateral presentation is somewhat more common--what is that population?*  
Children



# Typical Optic Neuritis

## Optic Neuropathy

Inflammatory

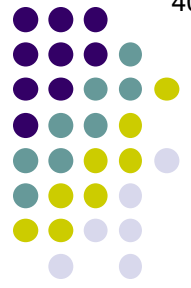
Noninflammatory

Typical  
(demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*  
Unilateral vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

*How profound is the vision loss?*

ary



# Typical Optic Neuritis

## Optic Neuropathy

Inflammatory

Noninflammatory

Typical  
(demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*  
Unilateral vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

*How profound is the vision loss?*  
The vision can be anywhere from 20/20 to NLP; however, most are in the Snellen to Snellen range

ary





# Typical Optic Neuritis

## Optic Neuropathy

Inflammatory

Noninflammatory

Typical  
(demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*  
 Unilateral vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

*How profound is the vision loss?*  
 The vision can be anywhere from 20/20 to NLP; however, most are in the 20/40 – 20/200 range

ary



## Typical Optic Neuritis

### Optic Neuropathy

Inflammatory

Noninflammatory

Typical  
(demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*

Unilateral vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

*How profound is the vision loss?*

The vision can be anywhere from 20/20 to NLP; however, most are in the 20/40 – 20/200 range

*What is the long-term visual prognosis?*



## Typical Optic Neuritis

### Optic Neuropathy

Inflammatory

Noninflammatory

Typical  
(demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*

Unilateral vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

*How profound is the vision loss?*

The vision can be anywhere from 20/20 to NLP; however, most are in the 20/40 – 20/200 range

*What is the long-term visual prognosis?*

Very good—about 95% will be 20/40 or better at one year



## Typical Optic Neuritis

### Optic Neuropathy

Inflammatory

Noninflammatory

Typical  
(demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*

Unilateral vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

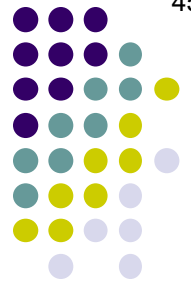
*How profound is the vision loss?*

The vision can be anywhere from 20/20 to NLP; however, most are in the 20/40 – 20/200 range

*What is the long-term visual prognosis?*

Very good—about 95% will be 20/40 or better at one year

*What should you do if spontaneous recovery fails to occur?*



# Typical Optic Neuritis

## Optic Neuropathy

Inflammatory

Noninflammatory

Typical  
(demyelinating)

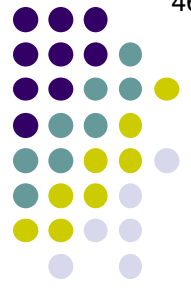
*What is the pattern of vision loss in typical optic neuritis?*  
 Unilateral vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

*How profound is the vision loss?*  
 The vision can be anywhere from 20/20 to NLP; however, most are in the 20/40 – 20/200 range

*What is the long-term visual prognosis?*  
 Very good—about 95% will be 20/40 or better at one year

*What should you do if spontaneous recovery fails to occur?*  
 You should question the diagnosis

ary



# Typical Optic Neuritis

## Optic Neuropathy

Inflammatory

Noninflammatory

Typical  
(demyelinating)

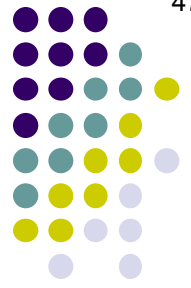
*What is the pattern of vision loss in typical optic neuritis?*  
Bilateral vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

*How profound is the vision loss?*  
The vision loss is usually severe and is in the 20/200 range

*What diagnosis should be considered if optic neuritis presents bilaterally and/or fails to recover spontaneously?*

*What is the long-term visual prognosis?*  
Very good—about 95% will be 20/40 or better at one year

*What should you do if spontaneous recovery fails to occur?*  
**You should question the diagnosis**



# Typical Optic Neuritis

## Optic Neuropathy

Inflammatory

Noninflammatory

Typical (demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*  
 Bilateral vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

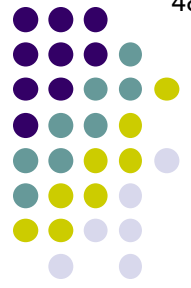
*How profound is the vision loss?*  
 The vision loss is usually profound, but <sup>no</sup> the vision often recovers.

*What diagnosis should be considered if optic neuritis presents bilaterally and/or fails to recover spontaneously?*  
**Neuromyelitis optica (NMO), aka Devic's disease**

*What is the long-term visual prognosis?*  
 Very good—about 95% will be 20/40 or better at one year

*What should you do if spontaneous recovery fails to occur?*  
**You should question the diagnosis**

What diagnosis should be considered if optic neuritis presents bilaterally and/or fails to recover spontaneously?  
**Neuromyelitis optica (NMO), aka Devic's disease**



# Typical Optic Neuritis

## Optic Neuropathy

*NMO involves two specific disease processes occurring together. One is optic neuritis; what is the other?*

inflammatory

*al optic neuritis?  
period of a few days,  
beginning a week or two later*

typical  
(demyelinating)

*no*  
*How profound  
The vision  
are in the 2*

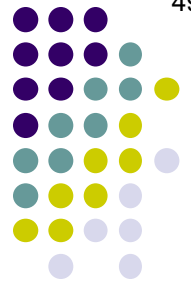
*What diagnosis should be considered if optic neuritis presents bilaterally and/or fails to recover spontaneously?*  
**Neuromyelitis optica (NMO), aka Devic's disease**

*What is the long-term visual prognosis?*  
Very good—about 95% will be 20/40 or better at one year

*What should you do if spontaneous recovery fails to occur?*  
**You should question the diagnosis**

ary





# Typical Optic Neuritis

## Optic Neuropathy

*NMO involves two specific disease processes occurring together. One is optic neuritis; what is the other?*  
**Transverse myelitis.** NMO is primarily a disease of 'the optic nerves and spinal cord' (although importantly, other aspects of the CNS can be affected—more shortly)

Non-inflammatory

*What is the typical course of optic neuritis?*  
 A period of a few days, followed by spontaneous recovery beginning a week or two later

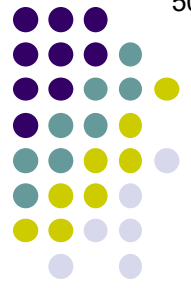
Typical (demyelinating)

no  
*How profound is the vision loss?*  
 The vision loss is usually partial and is in the 20/40 to 20/200 range

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## Optic Neuropathy

How does transverse myelitis present clinically?

together.

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inflammatory

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period of a few days,  
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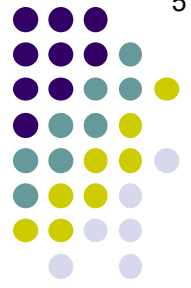
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How does transverse myelitis present clinically?  
As a symmetric para- or quadriplegia, often with sensory loss (note that symmetric deficits are distinctly **uncommon** in MS)

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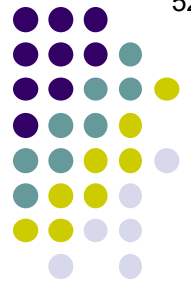
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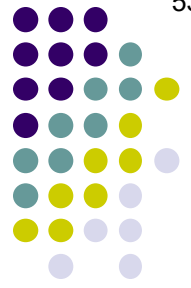
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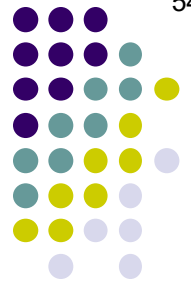
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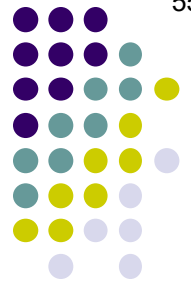
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How does transverse myelitis pr

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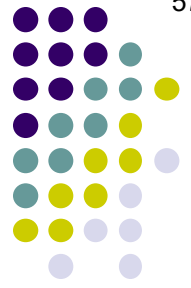
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Indeed it is! Further, optic nerve lesions in NMO tend to be more than those found in typical optic neuritis.

anterior vs posterior

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also in the

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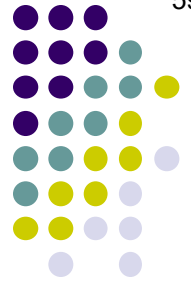
Indeed it is! Further, optic nerve lesions in NMO tend to be more posterior than those found in typical optic neuritis.

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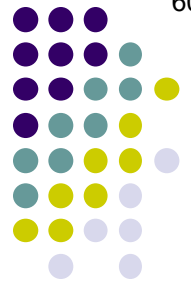
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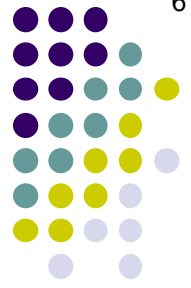
*How posterior are we talking about here?*

They can extend to the optic chiasm, which is almost unheard of in typical optic neuritis

*How long are we talking about?*  
2-3 vertebral segments or so

*What is the long-term visual prognosis?*  
Very good—about 95% will be 20/40 or better at one year

*What should you do if spontaneous recovery fails to occur?*  
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# Typical Optic Neuritis

## Optic Neuropathy

*NMO involves two specific disease processes occurring together. One is optic neuritis; what is the other?*  
**Transverse myelitis.** NMO is primarily a disease of 'the optic nerves and spinal cord' (although importantly, **other aspects of the CNS can be affected—more shortly**)

*Time for the 'more shortly.' When NMO affects 'other aspects of the CNS,' one of three classic (but not pathognomonic!) 'intractable' presentations may arise. What are they?*  
 --Intractable...  
 --Intractable...  
 --Intractable...

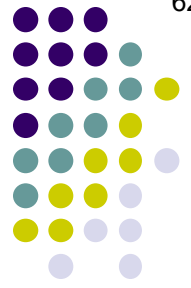
Non-inflammatory

*What is the prognosis for optic neuritis?  
 Spontaneous recovery, beginning a week or two later*

*When should optic neuritis be considered if optic neuritis  
 does not recover spontaneously?  
 Optic Neuropathy (NMO), aka Devic's disease*

*What is the prognosis?  
 Very good—about 95% will be 20/40 or better at one year*

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# Typical Optic Neuritis

## Optic Neuropathy

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 --Intractable...**nausea and vomiting**  
 --Intractable...**hiccups**  
 --Intractable...**daytime somnolence**

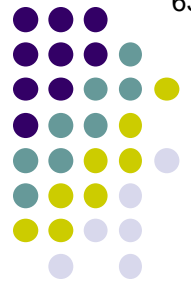
Non-inflammatory

*What if optic neuritis? period of a few days, beginning a week or two later*

*When should one be considered if optic neuritis does not recover spontaneously?*  
**Optic Neuropathy (NMO), aka Devic’s disease**

*What is the prognosis?*  
 Very good—about 95% will be 20/40 or better at one year

*What should you do if spontaneous recovery fails to occur?*  
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Non-inflammatory

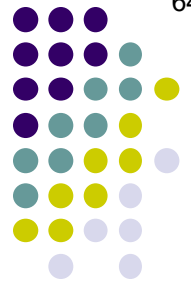
What is the other?  
 Transverse myelitis  
 period of a few days, beginning a week or two later

*Time for the 'more shortly.'* When NMO affects 'other aspects of the CNS,' one of three classic (but not pathognomonic!) 'intractable' presentations may arise. What are they?

- Intractable...nausea and vomiting
- Intractable...hiccups
- Intractable...daytime somnolence

*Make a mental note of these--they're very important! They will clue you in to the fact you're dealing with NMO rather than typical optic neuritis.*

Very good  
 What should you do if spontaneous recovery fails to occur?  
**You should question the diagnosis**



# Typical Optic Neuritis

## Optic Neuropathy

Does it really matter that much whether a pt has NMO vs typical optic neuritis?

Time for the 'more shortly. When NMO affects other aspects of the CNS, one of three classic (but not pathognomonic!) 'intractable' presentations may arise. What are they?  
--Intractable...nausea and vomiting  
--Intractable...hiccups  
--Intractable...daytime somnolence

could be considered if optic neuritis does not recover spontaneously? and/or fails to recover spontaneously?

Make a mental note of these--they're very important! They will clue you in to the fact you're dealing with NMO rather than typical optic neuritis.

Very good  
What should you do if spontaneous recovery fails to occur?  
**You should question the diagnosis**





## Typical Optic Neuritis

# Optic Neuropathy

Does it really matter that much whether a pt has NMO vs typical optic neuritis?  
Very much so, for two reasons:

- 1)
- 2)

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- Intractable...nausea and vomiting
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What should you do if spontaneous recovery fails to occur?  
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## Typical Optic Neuritis

# Optic Neuropathy

*Does it really matter that much whether a pt has NMO vs typical optic neuritis?*

Very much so, for two reasons:

- 1) The treatment regimens for the two diseases are different
- 2) By correctly identifying and treating NMO, you might preclude the dreaded sequelae of the disease, those being **paralysis** or even **death** owing to the transverse myelitis (untreated NMO carries a very high risk of both)

*Time for the more shortly. When NMO affects other aspects of the CNS, one of three classic (but not pathognomonic!)*

*'intractable' presentations may arise. What are they?*

--Intractable...nausea and vomiting

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Very good

*could be considered if optic neuritis*

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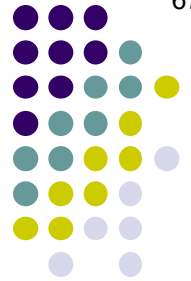
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**You should question the diagnosis**



## Typical Optic Neuritis

In general terms, what is the key difference in the treatment regimens?

Do you have a different approach to the treatment of optic neuritis?  
Very good

- 1) **The treatment regimens for the two diseases are different**
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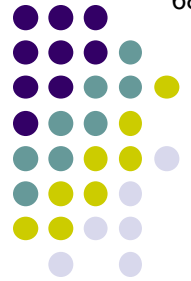
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could be considered if optic neuritis does not recover spontaneously? Very good

**Make a mental note of these--they're very important!**  
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What should you do if spontaneous recovery fails to occur?  
**You should question the diagnosis**



## Typical Optic Neuritis

In general terms, what is the key difference in the treatment regimens?  
 Typical optic neuritis is treated with [redacted] meds, whereas  
 NMO is treated with [redacted] regimens

Do you have any questions about optic neuritis?  
 Very good

- 1) **The treatment regimens for the two diseases are different**
- 2) By correctly identifying and treating NMO, you might preclude the dreaded sequelae of the disease, those being **paralysis** or even **death** owing to the transverse myelitis (untreated NMO carries a very high risk of both)

Time for the more shortly. When NMO affects other aspects of the CNS, one of three classic (but not pathognomonic!) 'intractable' presentations may arise. What are they? could be considered if optic neuritis does not recover spontaneously?

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**Make a mental note of these--they're very important!**  
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Very good  
 What should you do if spontaneous recovery fails to occur?  
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## Typical Optic Neuritis

In general terms, what is the key difference in the treatment regimens?  
 Typical optic neuritis is treated with immunomodulatory meds, whereas NMO is treated with immunosuppressive regimens

Do you have any questions about optic neuritis?  
 Very good

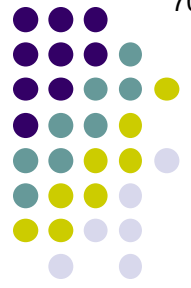
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Time for the more shortly. When NMO affects other aspects of the CNS, one of three classic (but not pathognomonic!) 'intractable' presentations may arise. What are they? could be considered if optic neuritis does not recover spontaneously?

- Intractable...nausea and vomiting
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# Typical Optic Neuritis

In general terms, what is the key difference in the treatment regimens?  
Typical optic neuritis is treated with immunomodulatory meds, whereas NMO is treated with immunosuppressive regimens

So, NMO doesn't respond to immunomodulatory meds?

- 1) The treatment regimens for the two diseases are different
- 2) By correctly identifying and treating NMO, you might preclude the dreaded sequelae of the disease, those being paralysis or even death owing to the transverse myelitis (untreated NMO carries a very high risk of both)

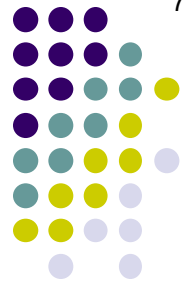
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could be considered if optic neuritis and/or fails to recover spontaneously?

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What should you do if spontaneous recovery fails to occur?  
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In general terms, what is the key difference in the treatment regimens?  
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Do So, NMO doesn't respond to immunomodulatory meds?  
Ve Oh it responds all right--it gets worse

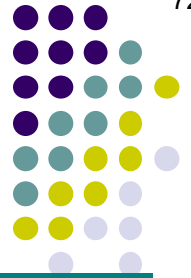
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What should you do if spontaneous recovery fails to occur?  
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## Typical Optic Neuritis

*In a few words, how would you characterize the pathological process in NMO?*

Typical  
(demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*

*Bilateral* vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

*no*

*How profound?*

*The vision of*

*are in the 2*

*What diagnosis should be considered if optic neuritis presents bilaterally and/or fails to recover spontaneously?*

**Neuromyelitis optica (NMO), aka Devic's disease**

*ary*

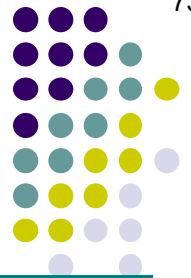
*What is the long-term visual prognosis?*

Very good—about 95% will be 20/40 or better at one year

*What should you do if spontaneous recovery fails to occur?*

**You should question the diagnosis**





# Typical Optic Neuritis

In a few words, how would you characterize the pathological process in NMO?  
As an antibody-mediated autoimmune condition

Typical  
(demyelinating)

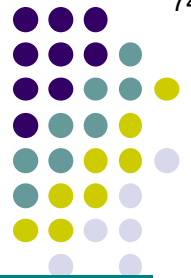
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How profound is the vision loss?  
The vision loss is usually partial and is in the 20/40 to 20/200 range

What diagnosis should be considered if optic neuritis presents bilaterally and/or fails to recover spontaneously?  
**Neuromyelitis optica (NMO), aka Devic's disease**

What is the long-term visual prognosis?  
Very good—about 95% will be 20/40 or better at one year

What should you do if spontaneous recovery fails to occur?  
**You should question the diagnosis**



# Typical Optic Neuritis

*In a few words, how would you characterize the pathological process in NMO?*  
As an antibody-mediated autoimmune condition

*What is the target of the antibodies?*

Typical  
(demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*  
**Bilateral** vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

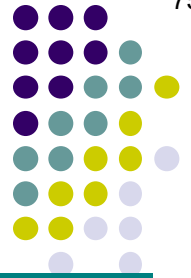
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are in the 2

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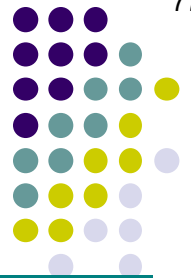
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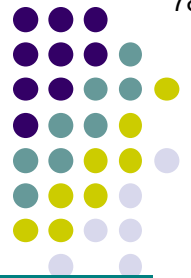
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*What does this protein do?*  
 It is the main water channel protein in **CNS cell type** cells. Damage to this protein interferes with CNS fluid homeostasis.

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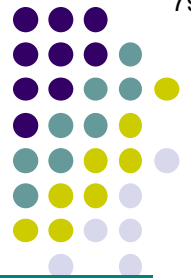
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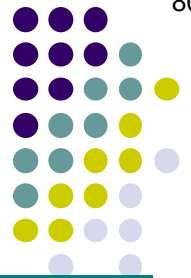
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*Is lab testing available to detect these antibodies?*

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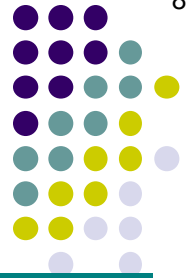
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As an antibody-mediated autoimmune condition

*What is the target of the antibodies?*  
The protein **aquaporin-4**

*Is lab testing available to detect these antibodies?*  
Yes, and they form part of the diagnostic criteria for NMO

*What does this protein do?*

It is the main water channel protein in astroglial cells. Damage to this protein interferes with CNS fluid homeostasis.

Typical  
(demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*

**Bilateral** vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later

*How profound is the vision loss?*

The vision loss is usually severe and lasts for several weeks to months

*What diagnosis should be considered if optic neuritis presents bilaterally and/or fails to recover spontaneously?*  
**Neuromyelitis optica (NMO), aka Devic's disease**

*What is the long-term visual prognosis?*

Very good—about 95% will be 20/40 or better at one year

*What should you do if spontaneous recovery fails to occur?*

**You should question the diagnosis**



# Typical Optic Neuritis

## Optic Neuropathy

Inflammatory

Noninflammatory

Typical (demyelinating)



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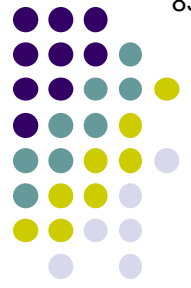
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ary



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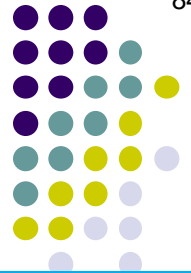
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*What is the long-term visual prognosis in NMO?*  
 Very ~~good~~ — about 95% will be 20/40 or better at one year  
<sup>poor</sup> — vision <20/200 in at least one eye is the rule!

*What should you do if spontaneous recovery fails to occur?*  
**You should question the diagnosis**

ary



## Typical Optic Neuritis

(Warning: Soapbox speech ahead)

Can typical optic neuritis present bilaterally? **Yes**. Can it be chronic? **Yes**. But you (speaking to everybody who isn't a fellowship-trained neuro-oph) shouldn't make that call, because such cases are zebras, if not unicorns (or even zebracorns). So, don't select 'bilateral typical optic neuritis' or 'chronic typical optic neuritis' as answers on the OKAP or WQEs, don't utter those words when taking the Boards, and most importantly, don't write them on a pt's chart!

Typical  
(demyelinating)

*What is the pattern of vision loss in typical optic neuritis?*

*Bilateral vision loss developing over a period of a few days, with spontaneous recovery beginning a week or two later*

*no*

*How profound*

*The vision of*

*are in the 2*

*What diagnosis should be considered if optic neuritis presents bilaterally and/or fails to recover spontaneously?*

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*ary*

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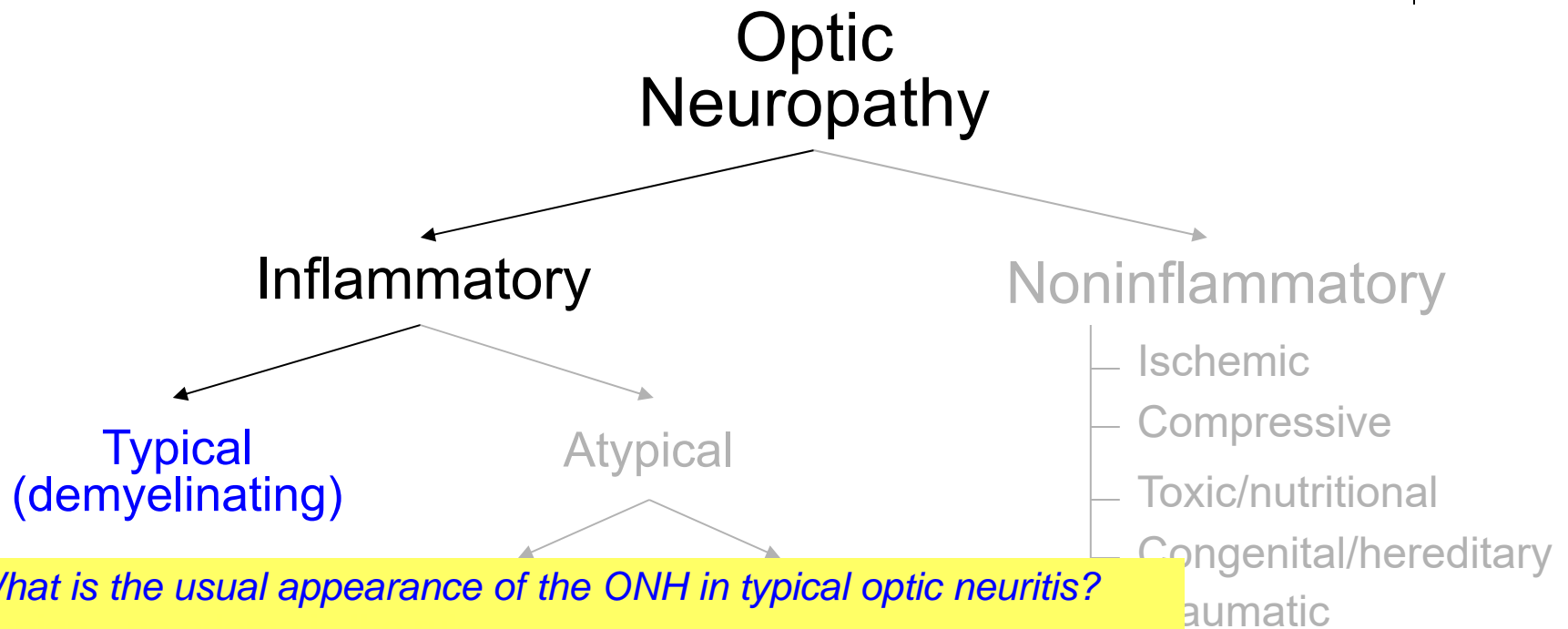
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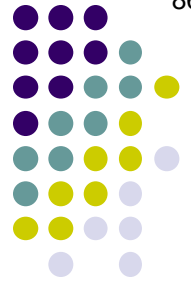
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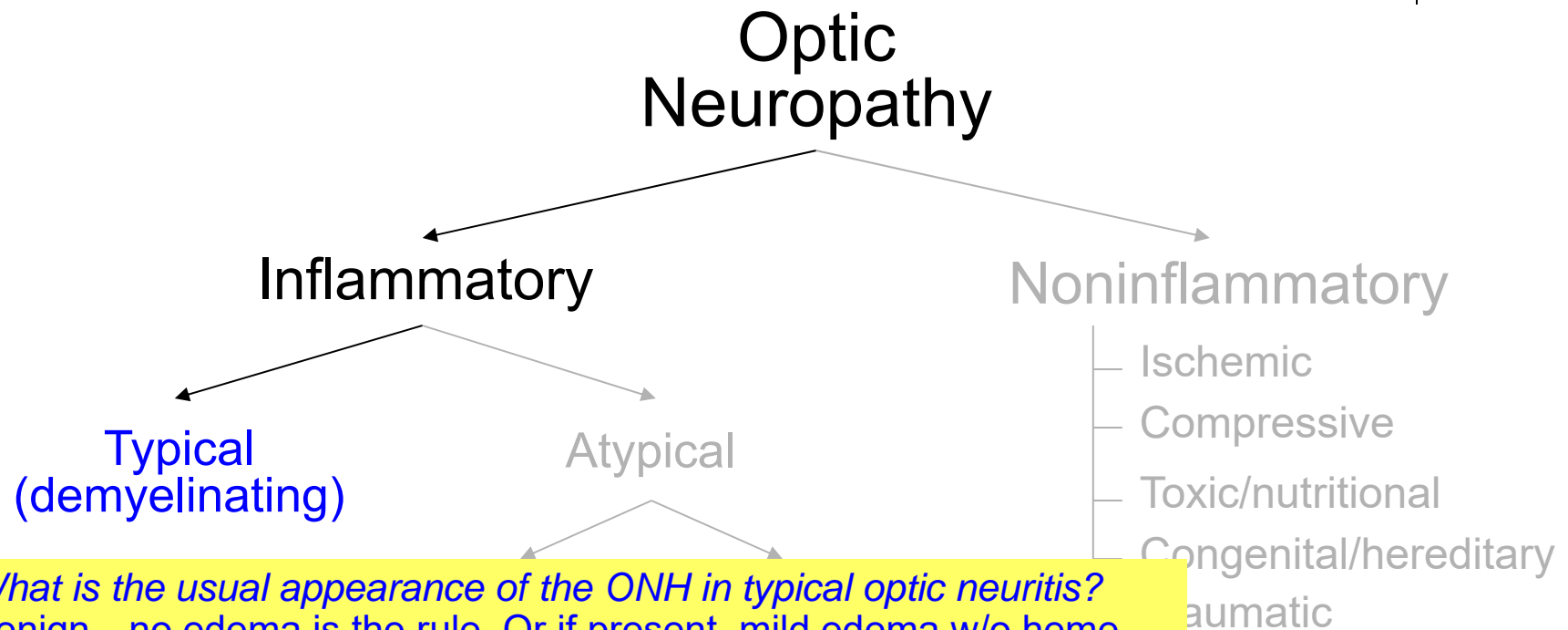
## Typical Optic Neuritis



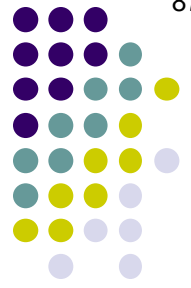
*What is the usual appearance of the ONH in typical optic neuritis?*



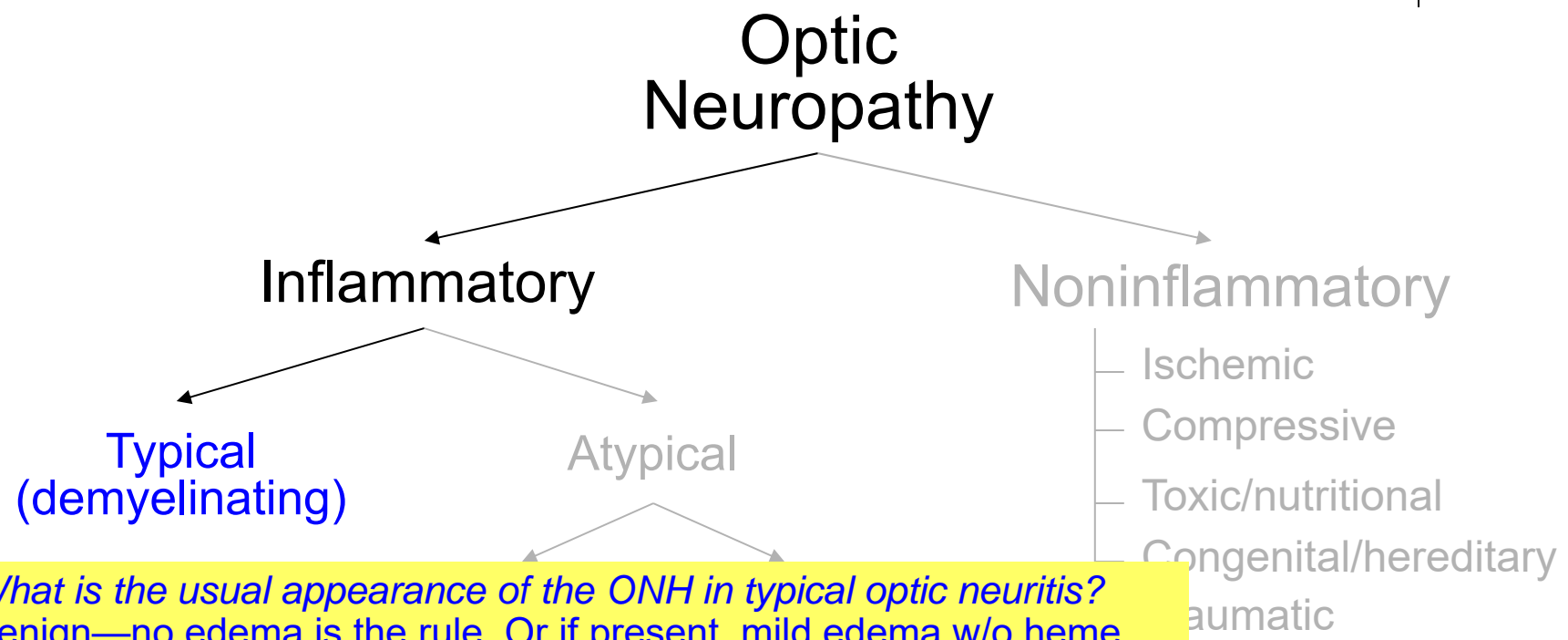
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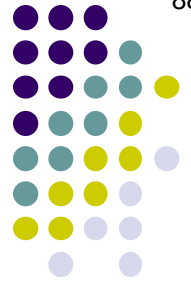


# Typical Optic Neuritis

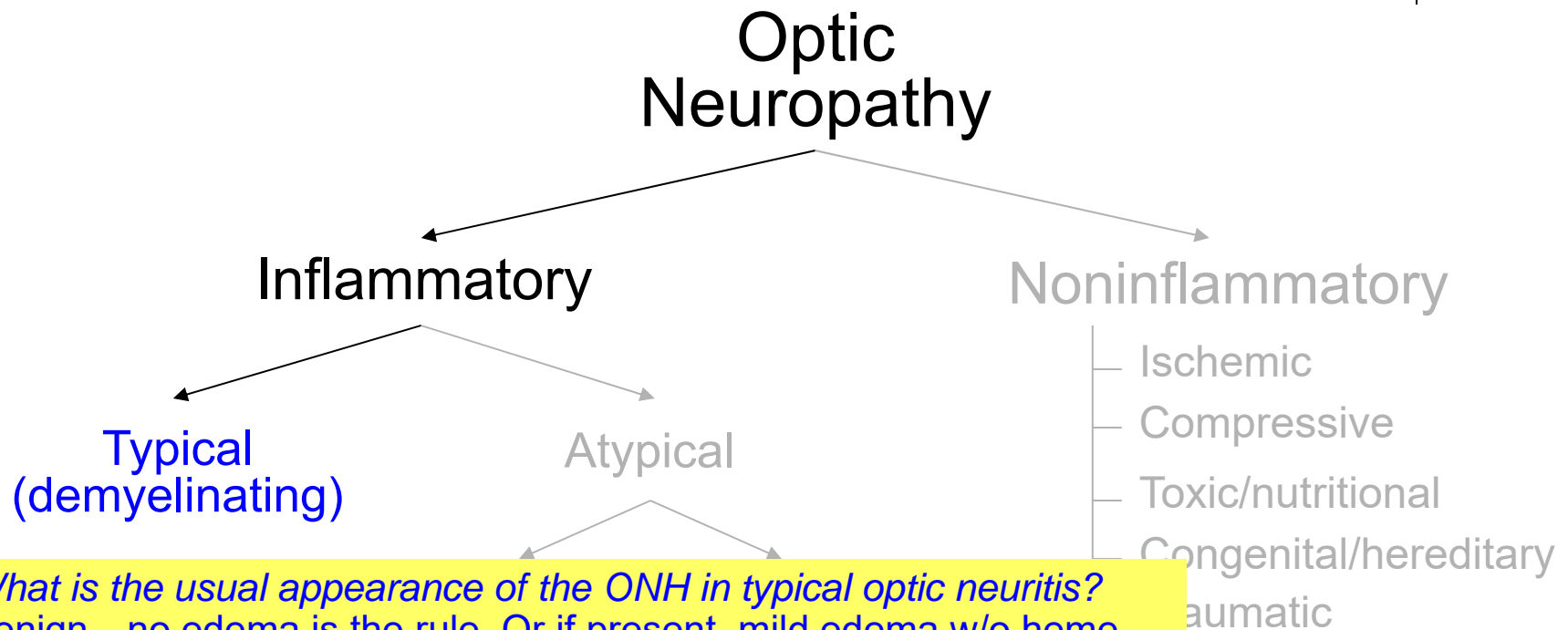


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*What should you do if a typical optic neuritis pt has florid disc edema?*



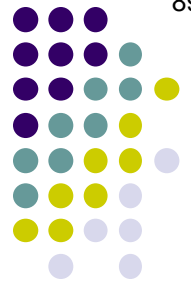
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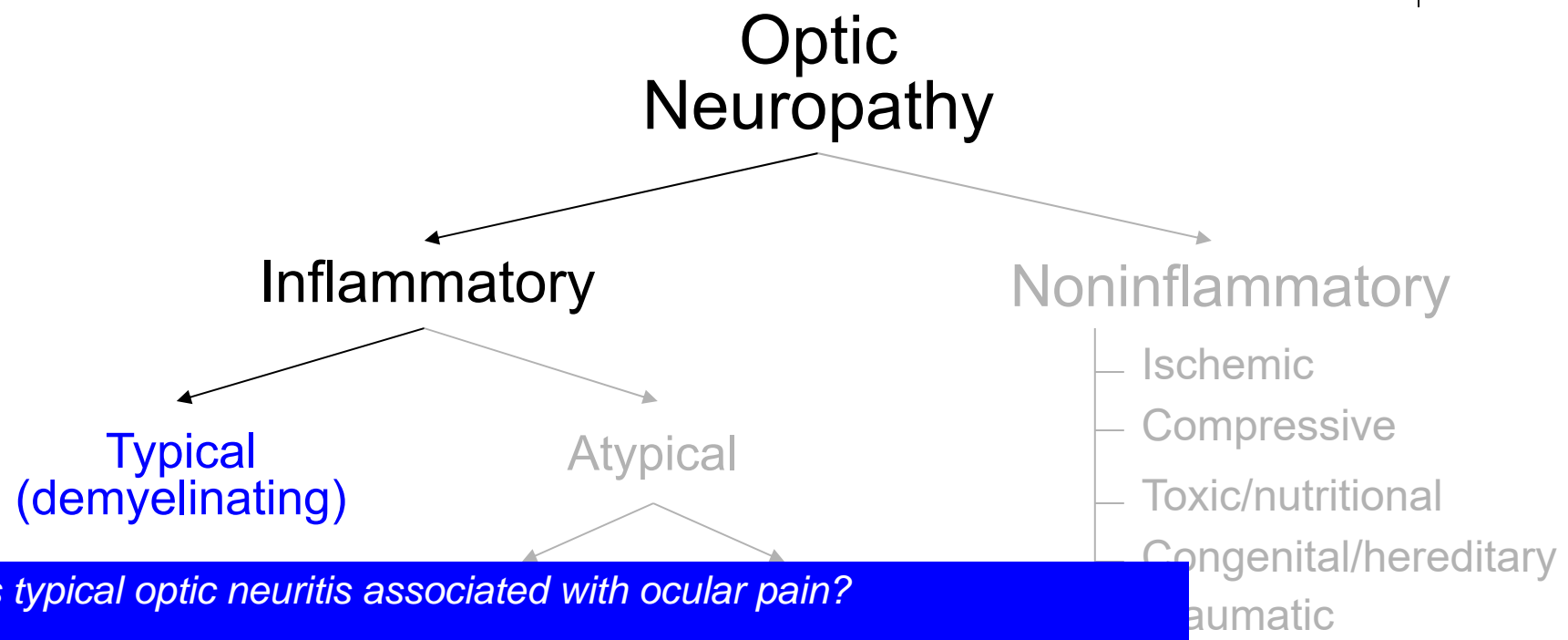
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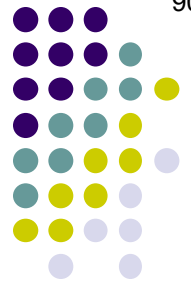




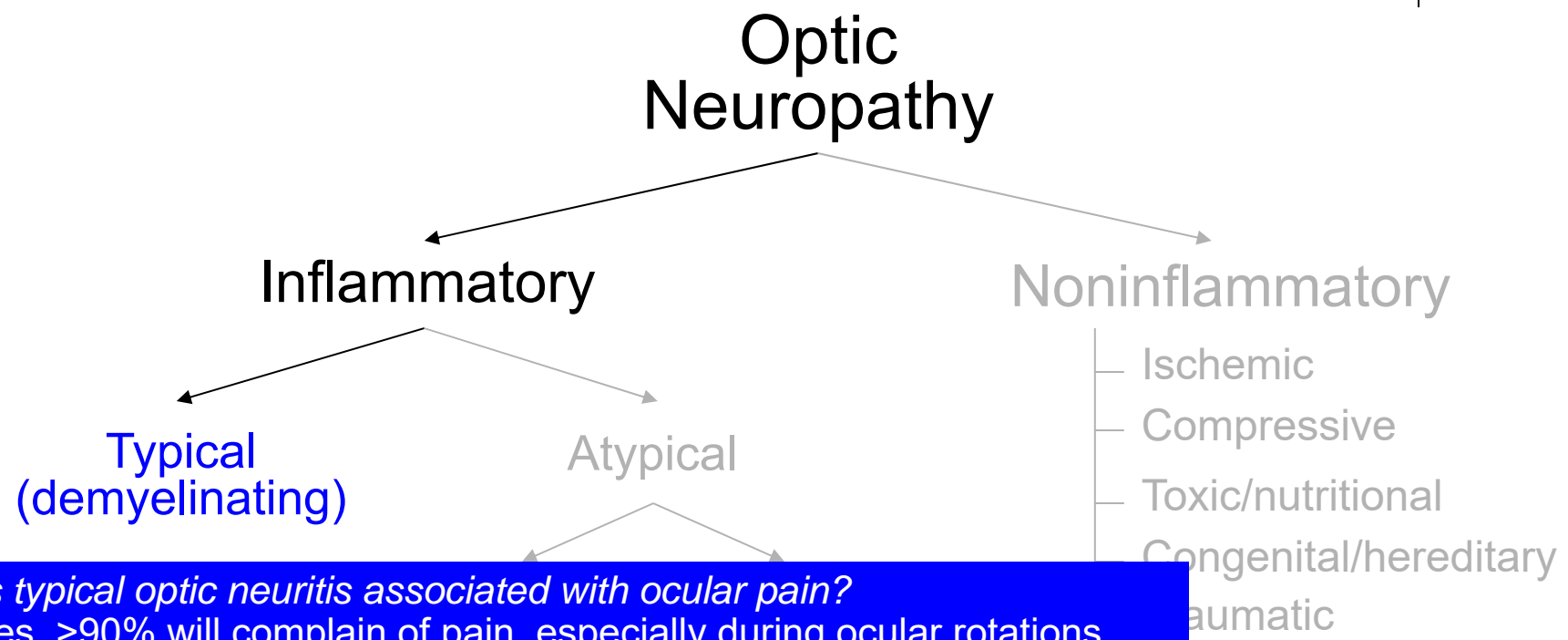
# Typical Optic Neuritis



*Is typical optic neuritis associated with ocular pain?*



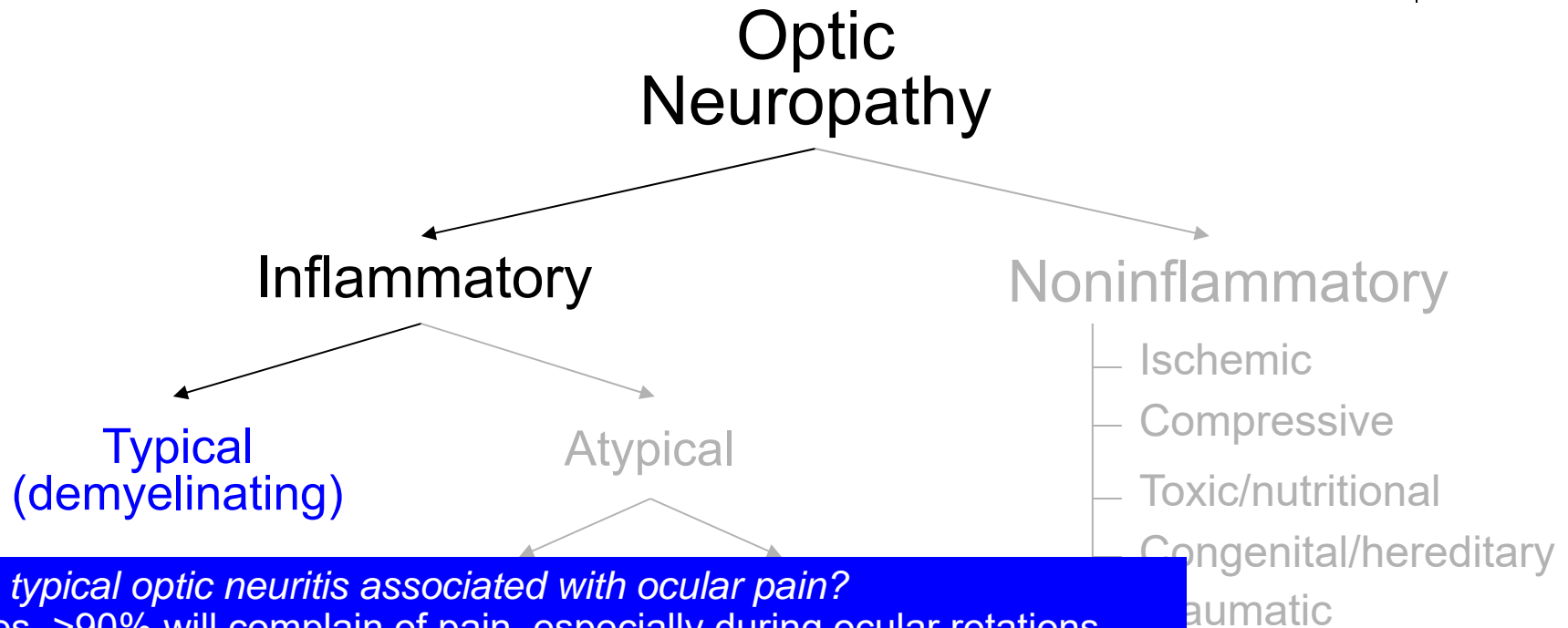
# Typical Optic Neuritis



*Is typical optic neuritis associated with ocular pain?*  
Yes. >90% will complain of pain, especially during ocular rotations.



## Typical Optic Neuritis



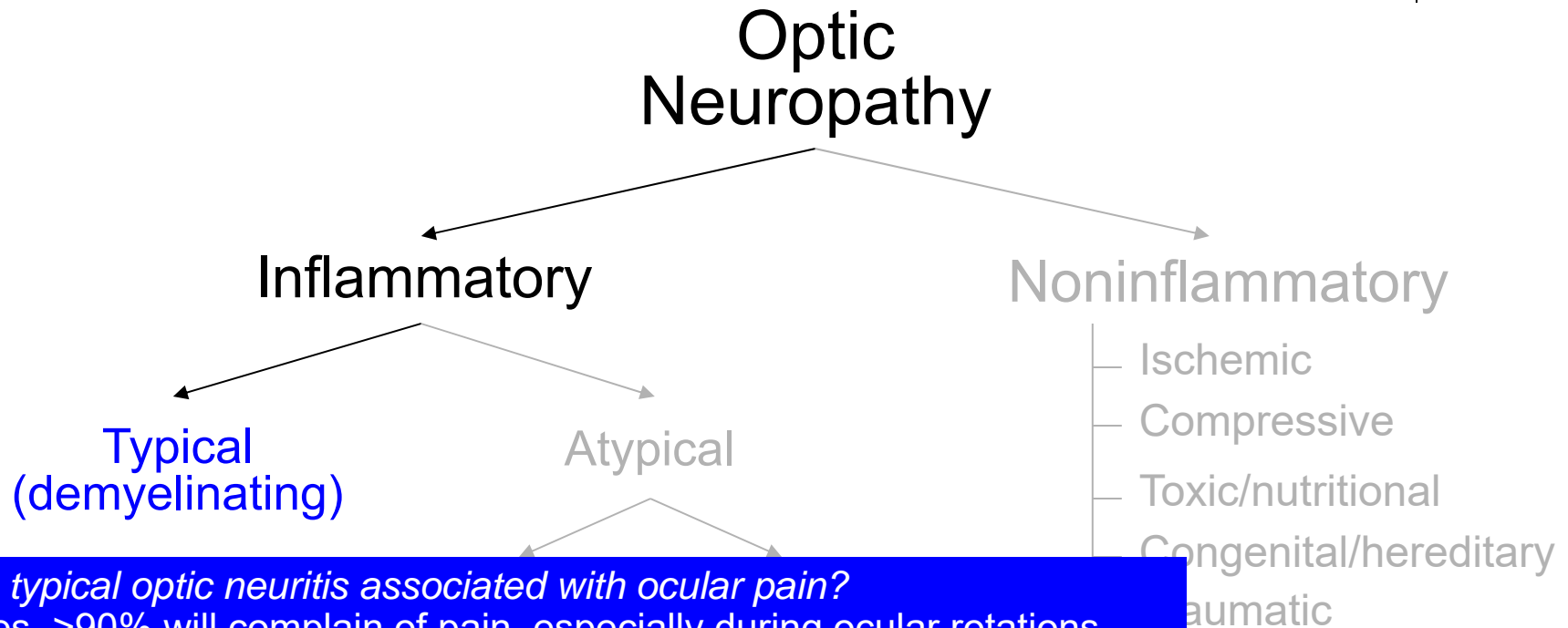
*Is typical optic neuritis associated with ocular pain?*

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## Typical Optic Neuritis

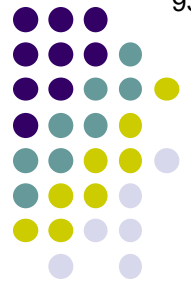


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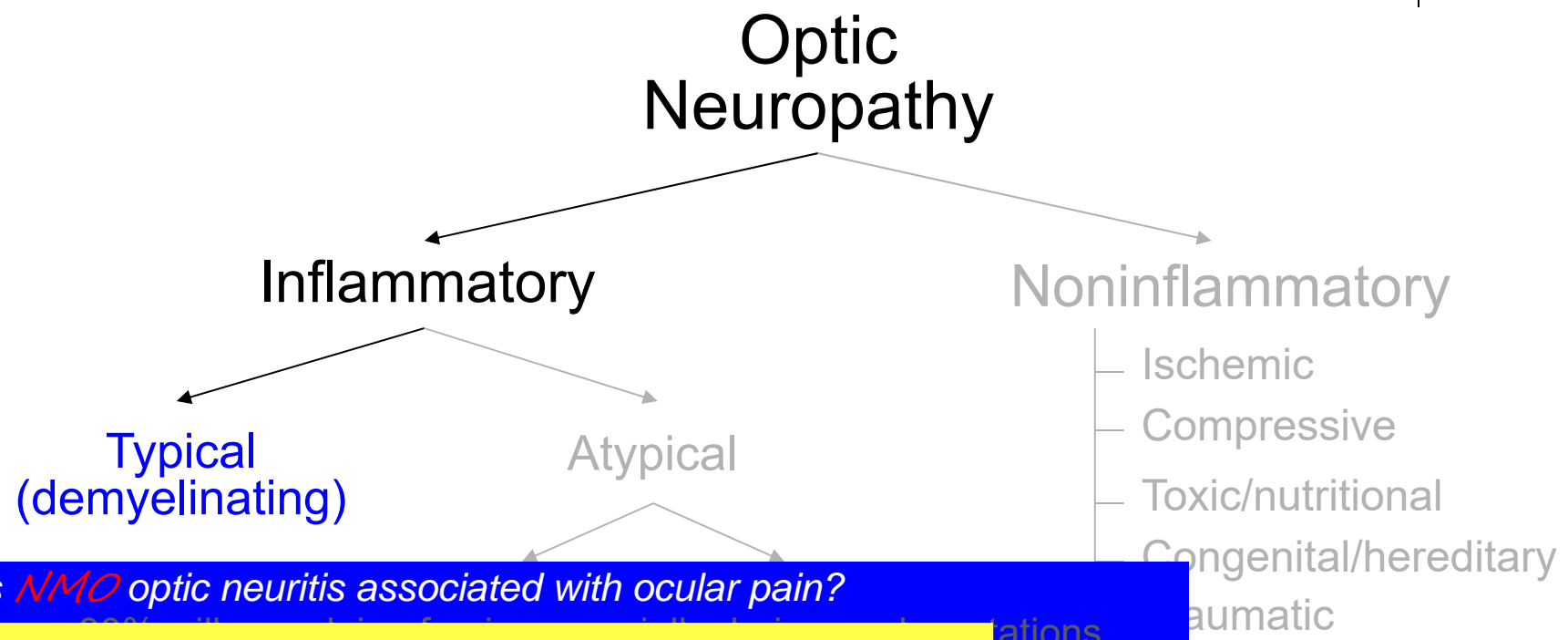
Yes. >90% will complain of pain, especially during ocular rotations.

*What should you do if a typical optic neuritis pt does not c/o pain?*

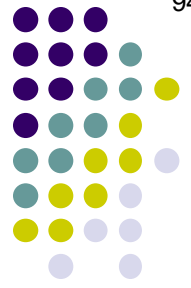
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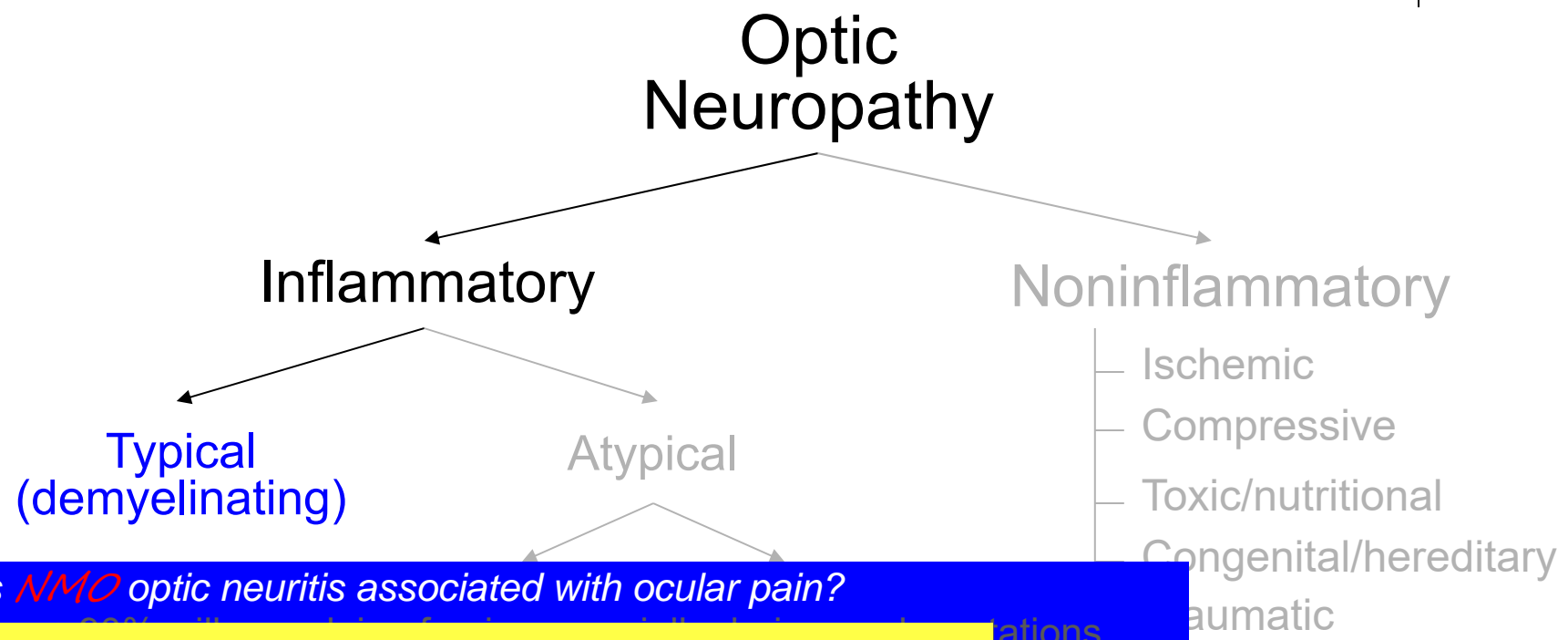
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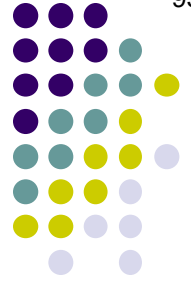
Is *NMO* optic neuritis associated with ocular pain?  
 What about optic neuritis due to NMO--is it associated with pain?  
 What should you do if a typical optic neuritis pt does not have pain?  
 You should question the diagnosis



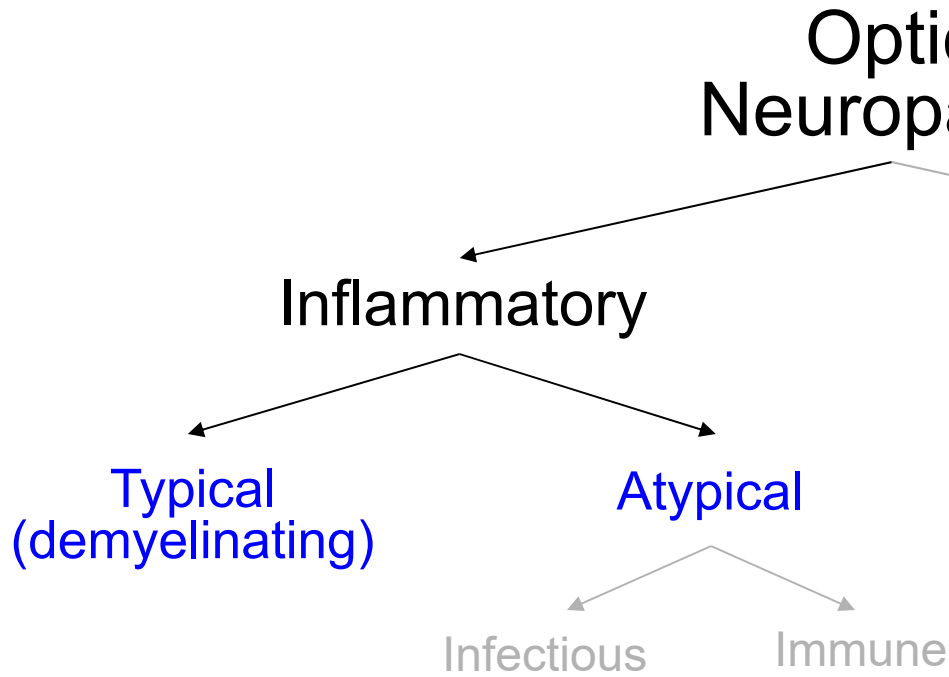
# Typical Optic Neuritis



Is *NMO* optic neuritis associated with ocular pain?  
 What about optic neuritis due to NMO--is it associated with pain?  
 Yes, but much less so--only 1/3 will c/o ocular pain  
 What should you do if a typical optic neuritis pt does not c/o pain?  
 You should question the diagnosis



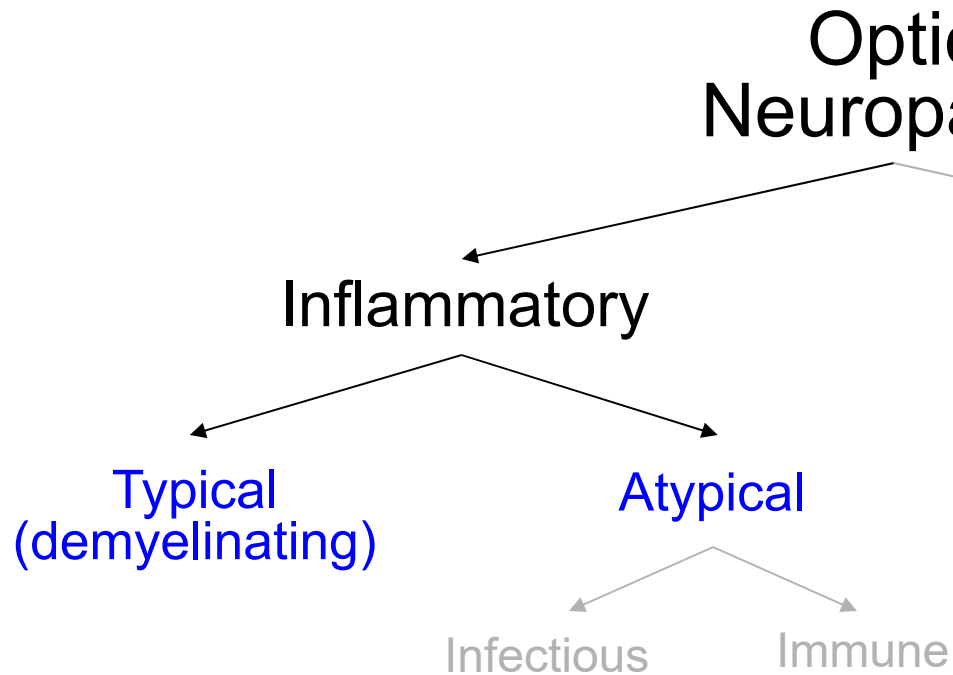
# Typical Optic Neuritis



*With respect to treatment, what is the key difference between typical and atypical ON?*



## Typical Optic Neuritis

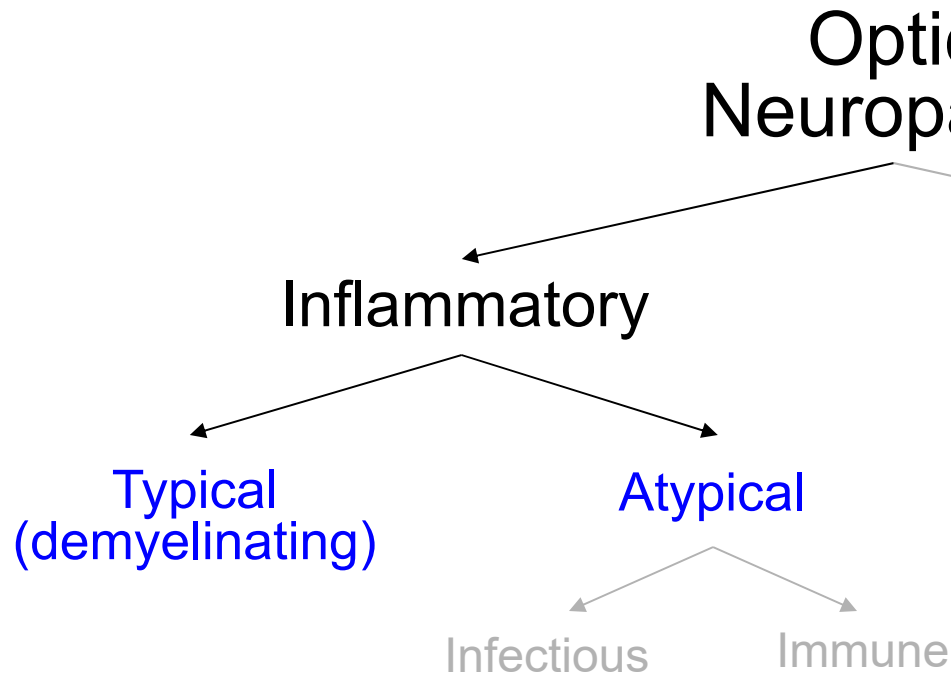


*With respect to treatment, what is the key difference between typical and atypical ON?*  
In atypical ON, treatment can influence final visual outcome; whereas in typical ON, **treatment has no effect on final visual outcome**





## Typical Optic Neuritis



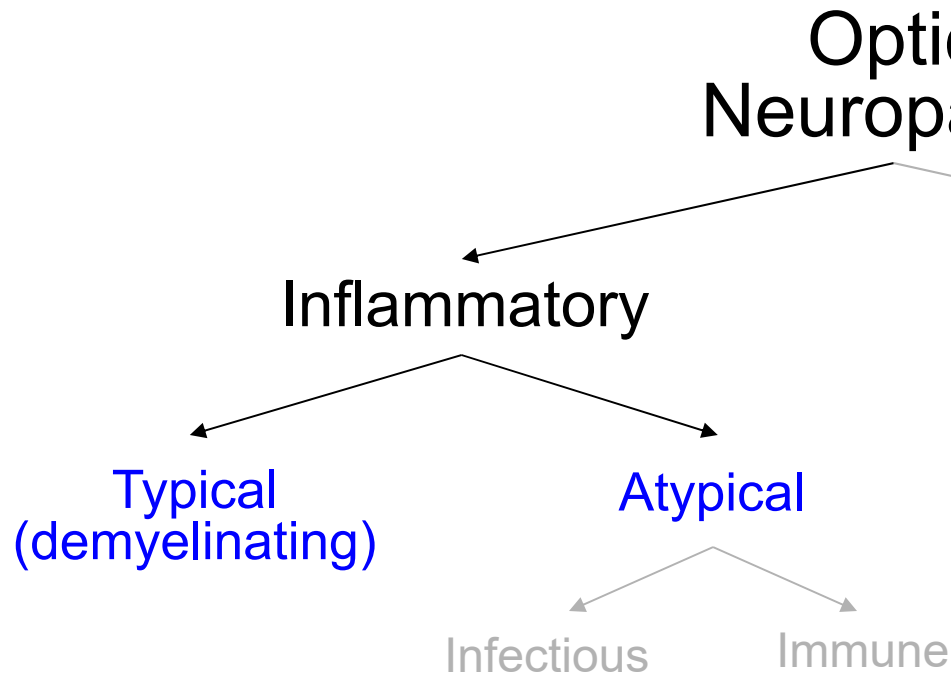
*With respect to treatment, what is the key difference between typical and atypical ON?*

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*Huh? What about the Optic Neuritis Treatment Trial (ONTT)? Didn't it show a benefit of IV steroids (and a deleterious effect of PO steroids)?*



## Typical Optic Neuritis

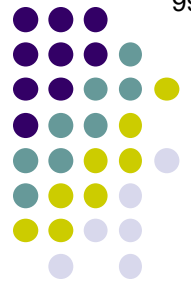


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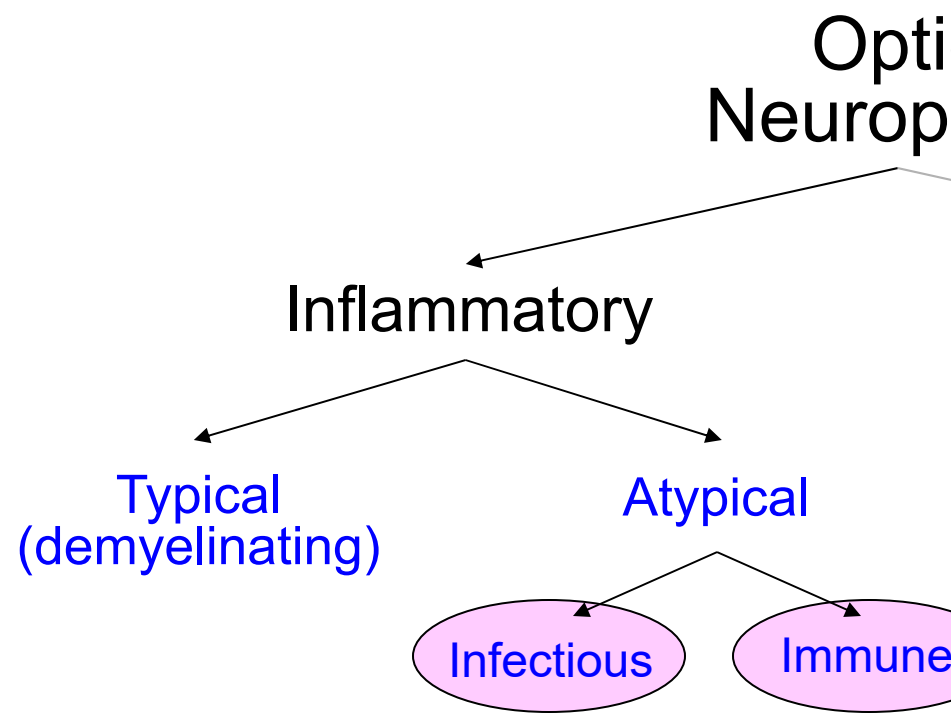
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*Huh? What about the Optic Neuritis Treatment Trial (ONTT)? Didn't it show a benefit of IV steroids (and a deleterious effect of PO steroids)?*

True and true. But the effect of IV steroids was to 1) hasten visual recovery and 2) delay onset of MS; the effect of PO steroids was to increase the risk of recurrent optic neuritis. **Neither treatment had any effect on final visual outcome, or on the likelihood of developing MS.**



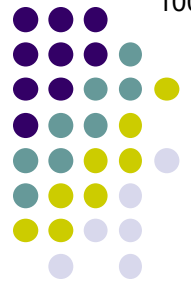
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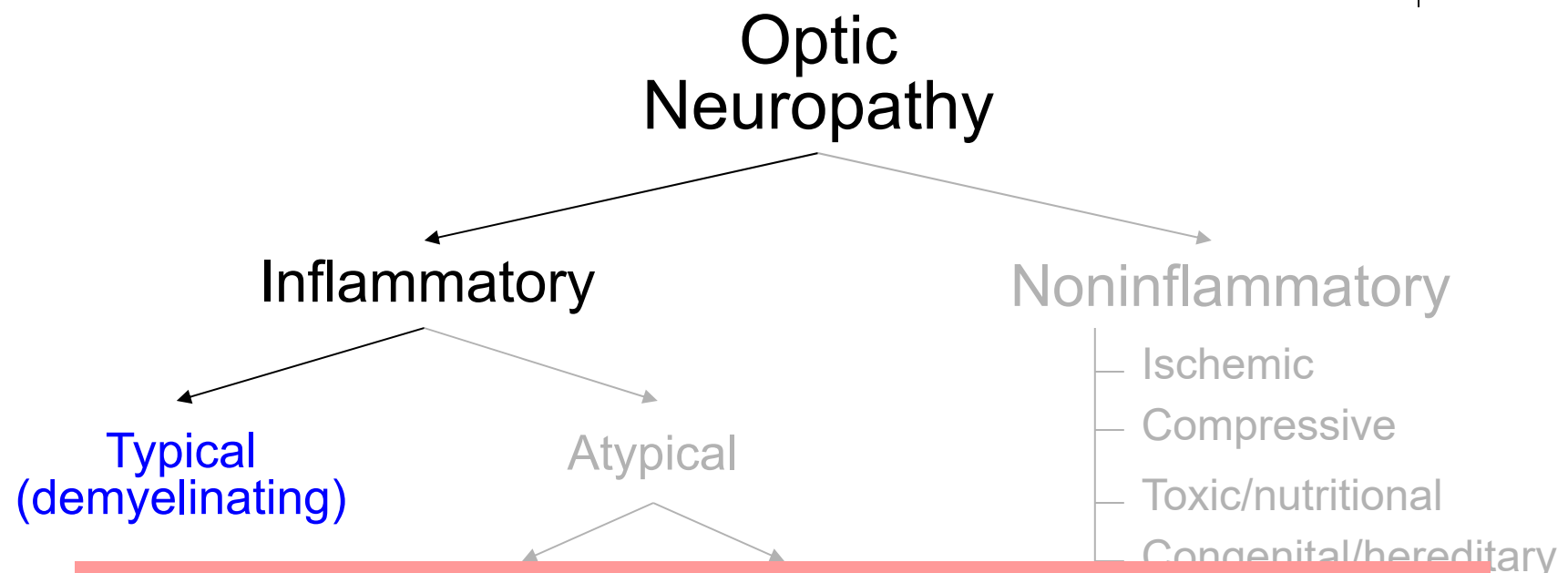
With respect to treatment, what is the key difference between typical and atypical ON?  
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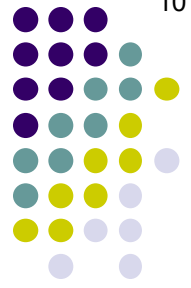
*On the other hand, most infectious and immune processes can be either cured or controlled via proper treatment!*



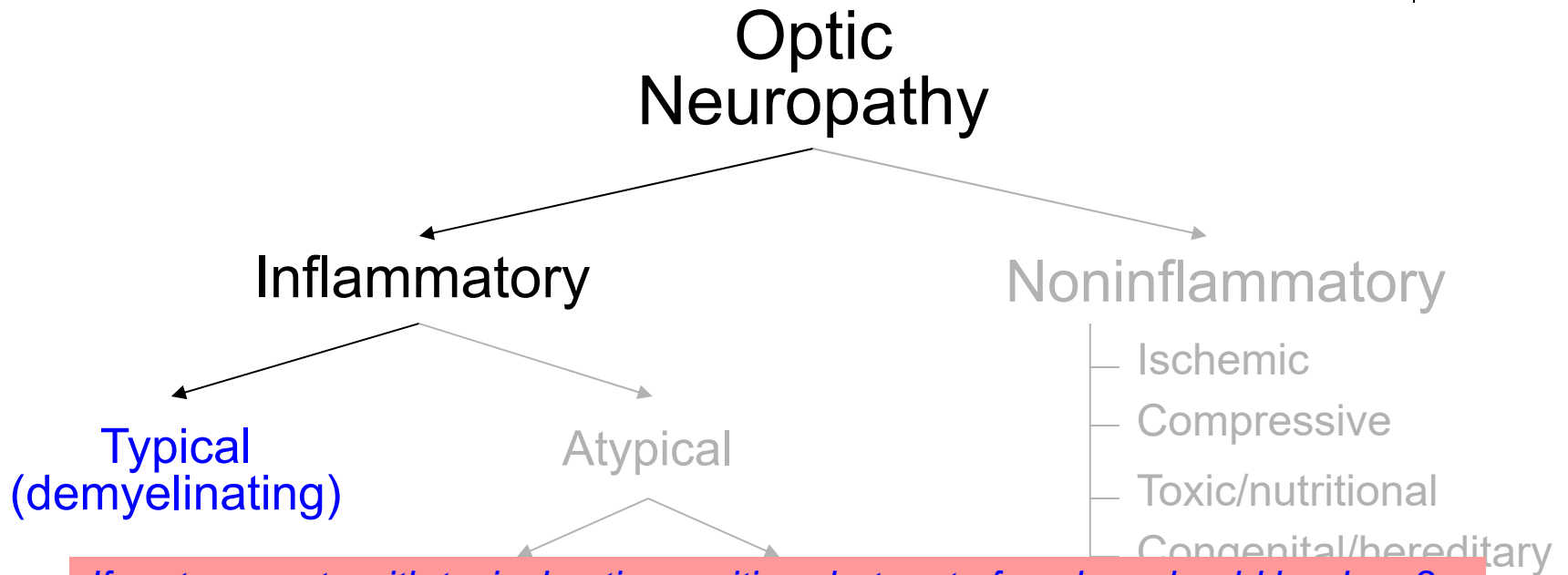
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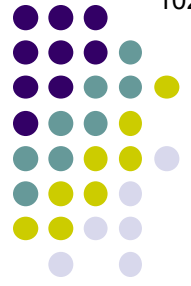
*If a pt presents with typical optic neuritis, what sort of workup should be done?*



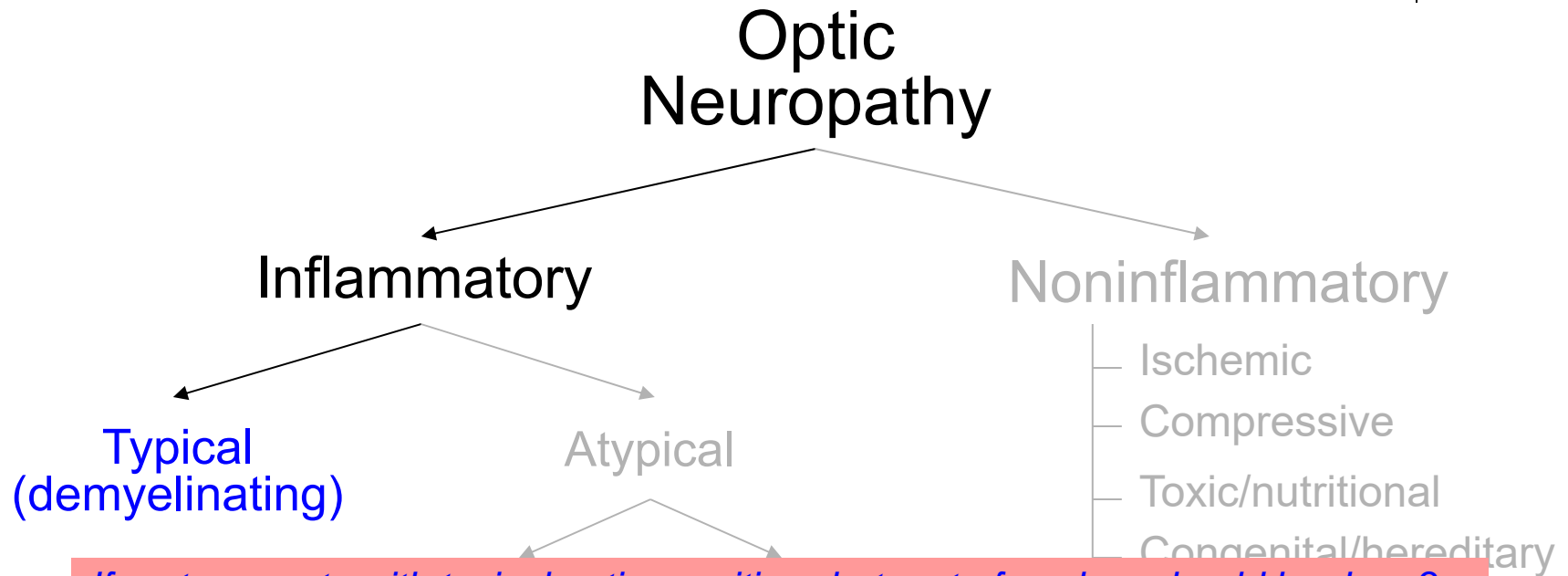
# Typical Optic Neuritis



*If a pt presents with typical optic neuritis, what sort of workup should be done?  
MRI brain and orbits, with contrast. That's it.*



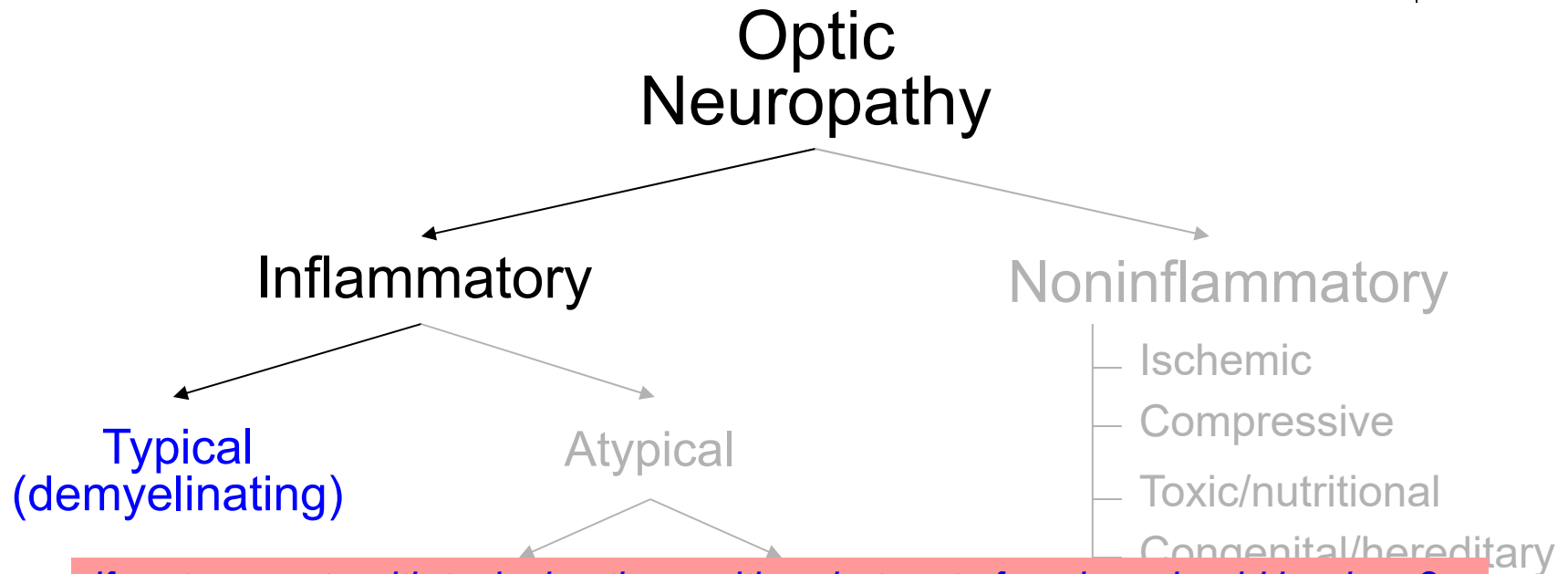
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*What is the purpose of the MRI?*

## Typical Optic Neuritis



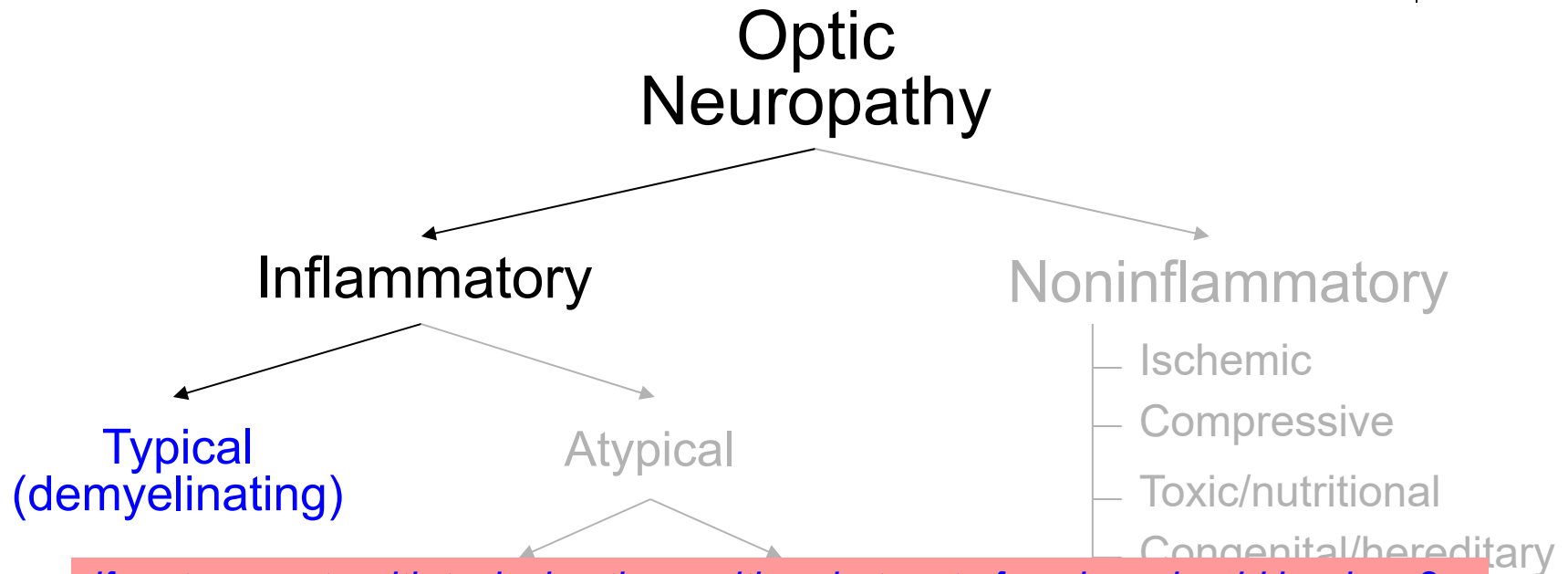
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To look for white-matter changes, the presence of which increases the likelihood of developing MS



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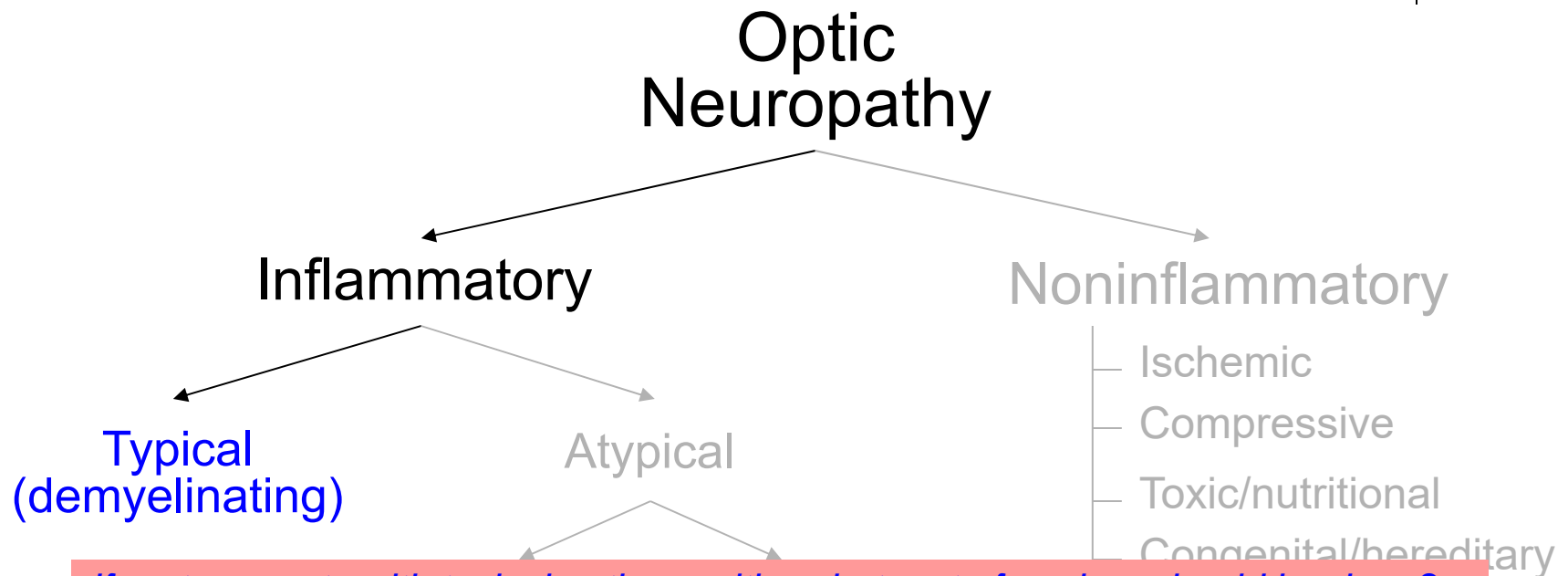
*What is the purpose of the MRI?*

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*What about lumbar puncture?*



## Typical Optic Neuritis



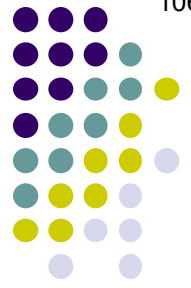
*If a pt presents with typical optic neuritis, what sort of workup should be done?*  
MRI brain and orbits, with contrast. That's it.

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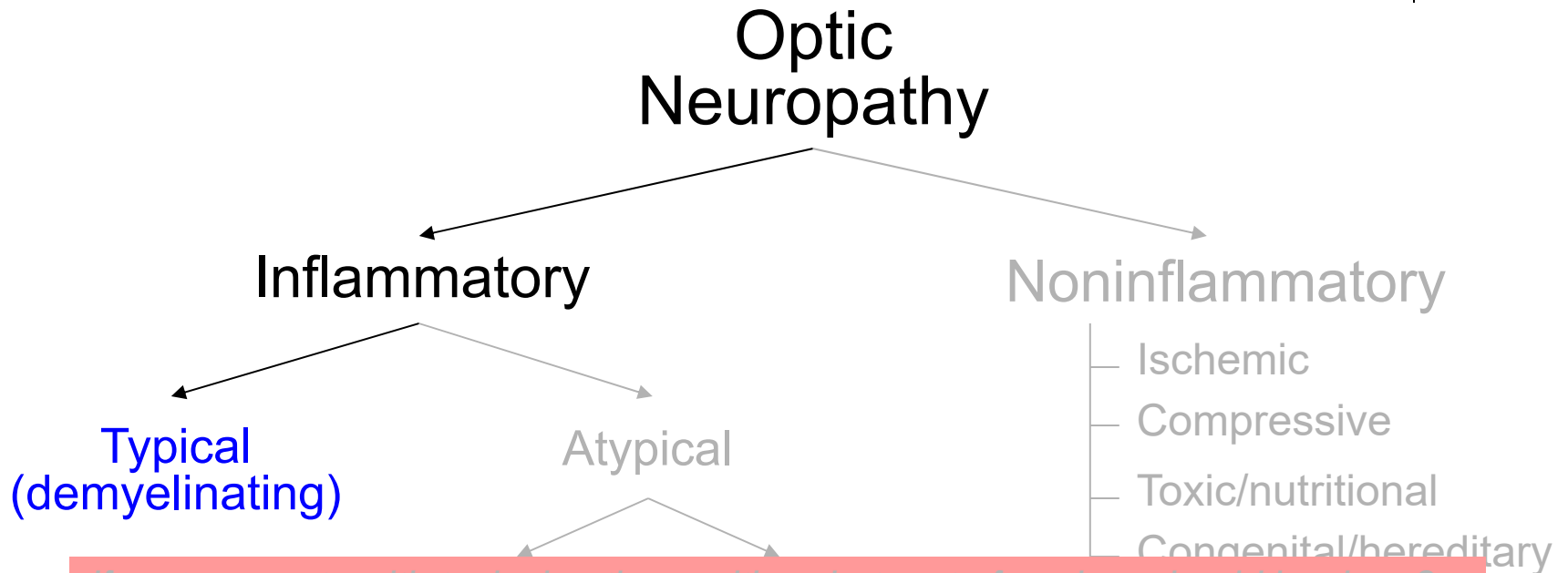
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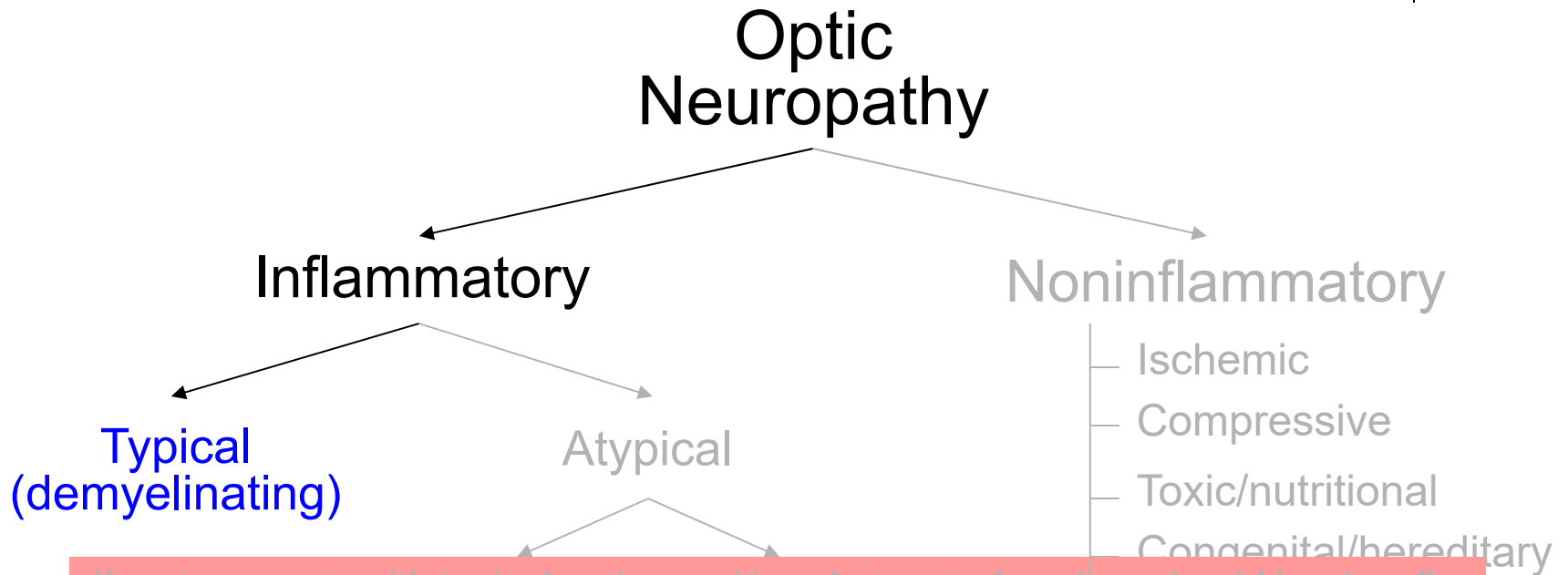
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*What about lumbar p...*  
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*Probability of MS by 15 years if...*  
*...no white matter changes on MRI:*  
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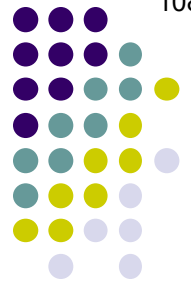
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**...white matter changes present: 72%**



# Typical Optic Neuritis

## Optic Neuropathy

### Inflammatory

### Noninflammatory

With regard to the 25% of ON patients who went on to develop MS despite having no white-matter changes... Which of the following characteristics were associated with an increased risk of developing MS?

- Severe ONH edema?
- Lack of pain?
- VA = NLP?
- Macular exudates?

Typical (demyelination)

If a pt pr MRI brain

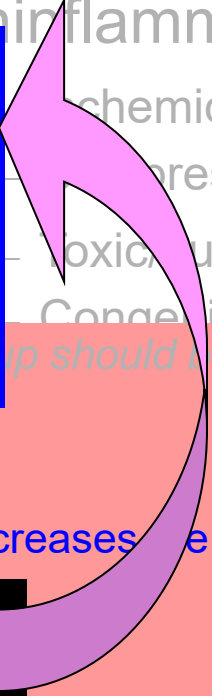
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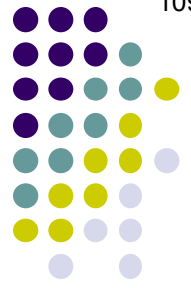
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- Severe ONH edema?
- Lack of pain?
- VA = NLP?
- Macular exudates?

# NO!

All of these were associated with a decreased risk of developing MS

Typical (demyelina

If a pt pr MRI brain

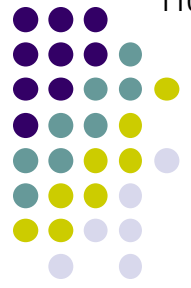
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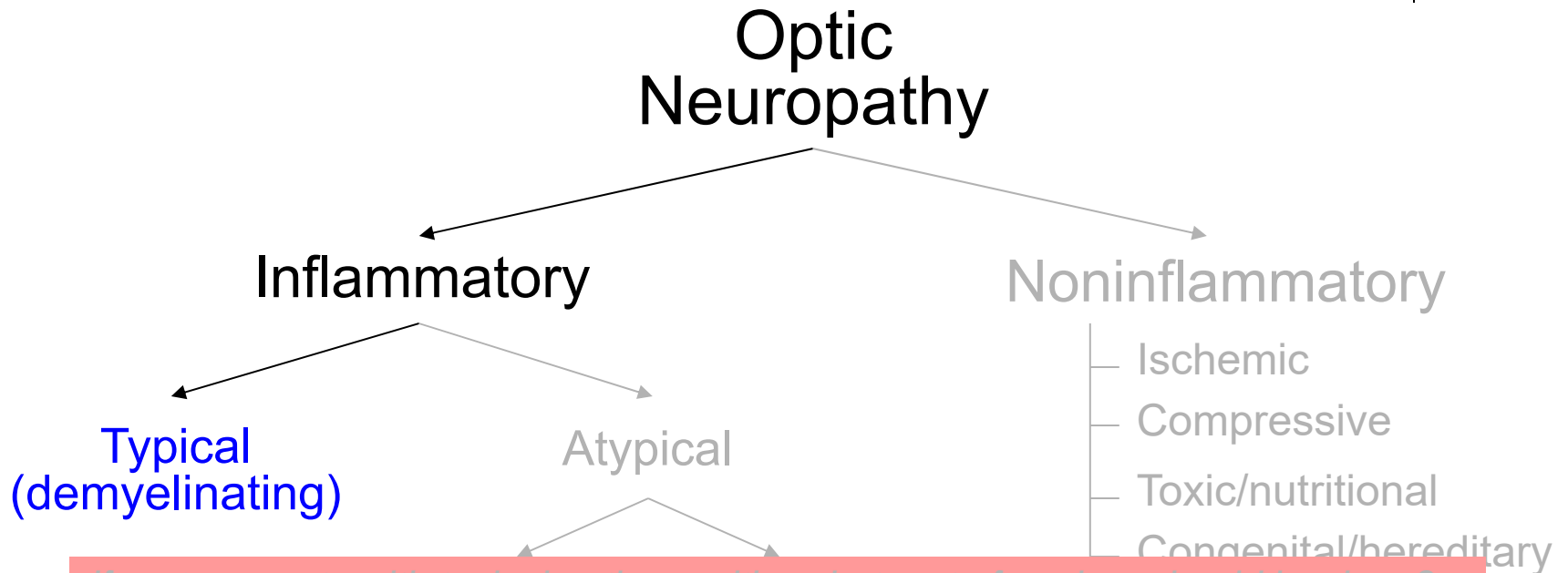
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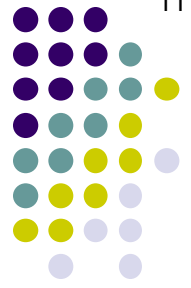
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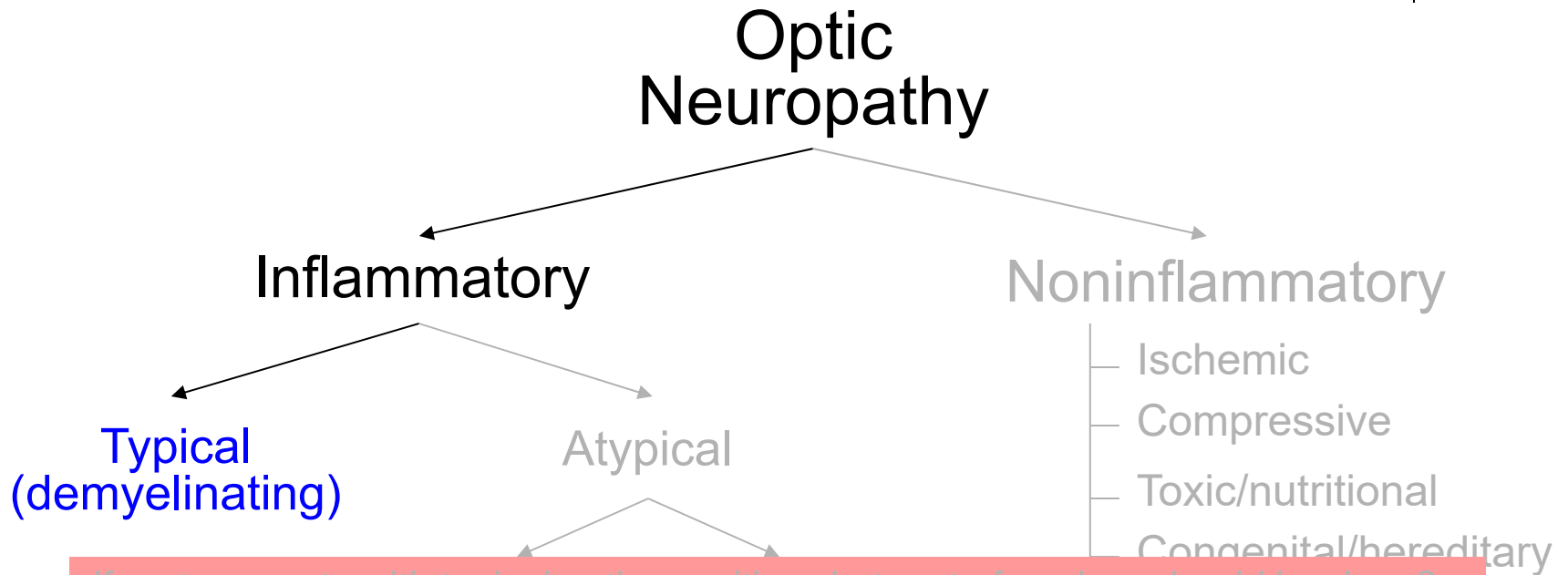
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**How many white matter lesions have to be present to convey an increased risk of MS?**



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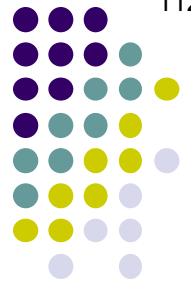
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How many white matter lesions have to be present to convey an increased risk of MS?  
Just one



# Typical Optic Neuritis

## Optic Neuropathy

Inflammatory

Noninflammatory

Typical (demyelinating)

Why is it important to know the probability of developing MS?

If a pt presents with optic neuritis and MRI brain and optic nerves are normal

What is the purpose of the MRI?

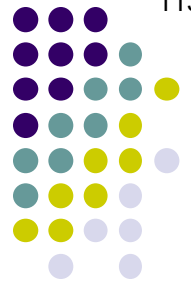
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# Typical Optic Neuritis

## Optic Neuropathy

Inflammatory

Noninflammatory

Typical (demyelinating)

*Why is it important to know the probability of developing MS?  
Because it may influence the pt's decision to receive MS prophylaxis with the drug [redacted]*

*If a pt presents MRI brain and c*

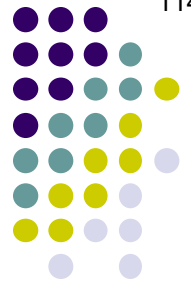
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Just one*



# Typical Optic Neuritis

## Optic Neuropathy

Inflammatory

Noninflammatory

Typical (demyelinating)

*Why is it important to know the probability of developing MS?  
Because it may influence the pt's decision to receive MS prophylaxis with the drug Avonex*

*If a pt presents with optic neuritis and MRI brain and c...*

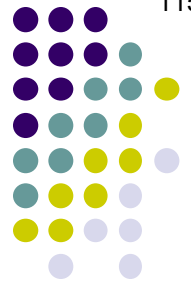
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# Typical Optic Neuritis

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Noninflammatory

Typical (demyelinating)

*Why is it important to know the probability of developing MS? Because it may influence the pt's decision to receive MS prophylaxis with the drug Avonex*

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 The CHAMPS, which stands for **C H A M P S**

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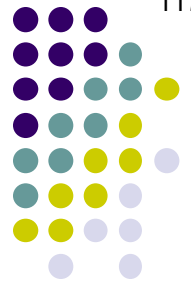
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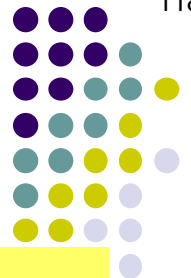
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# Typical Optic Neuritis

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Noninflammatory

Typical (demyelinating)

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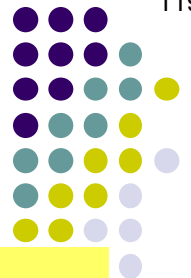
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# Typical Optic Neuritis

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IFNβ-1a

Inflammatory

Noninflammatory

Typical (demyelinating)

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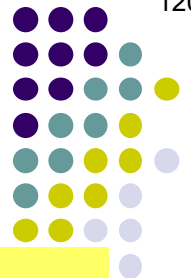
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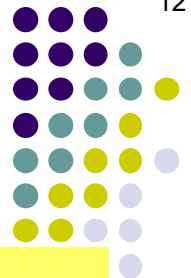
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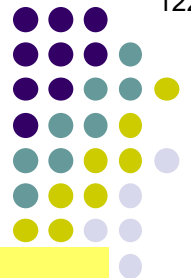
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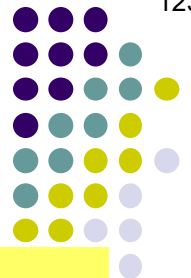
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