

OBJECTIVES:

1. To become empowered and educated to gain control over a disease where you feel no control.
 2. To identify the basic outcome measure that you will use to tell whether your disease is worse, the same or better.
 3. To know when you are having an objective relapse, a pseudo relapse or just “having a bad day.”
-
1. To become familiar with the terminology as it pertains to Multiple Sclerosis

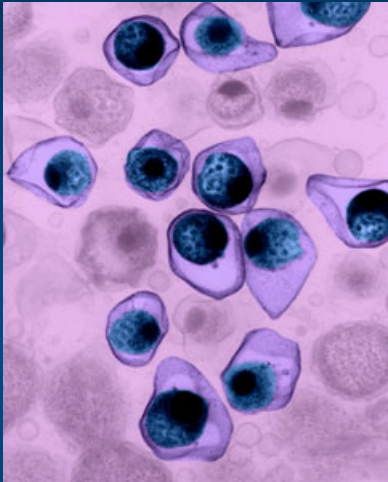
This is the first in the series of education patient programs
sponsored by the MS Center of Southern California

Efficacy in the Changing World
of Multiple Sclerosis
Definitions, Causes, & Therapies

MS is a Disease that Involves the Central Nervous System & the Immune System

- In MS, the immune system incorrectly targets the central nervous system (CNS)
 - CNS = brain, spinal cord, and optic tract
- The specific target of the immune attack is not yet known
- In MS, myelin (protective, fatty coating of CNS cells that allows rapid passage of electrical messages down the nerve) is damaged and cells in the CNS become dysfunctional or die when the myelin coating is lost

Potential Triggers for Multiple Sclerosis



Infectious agent?
(bacteria or virus)



Genetic Predisposition?

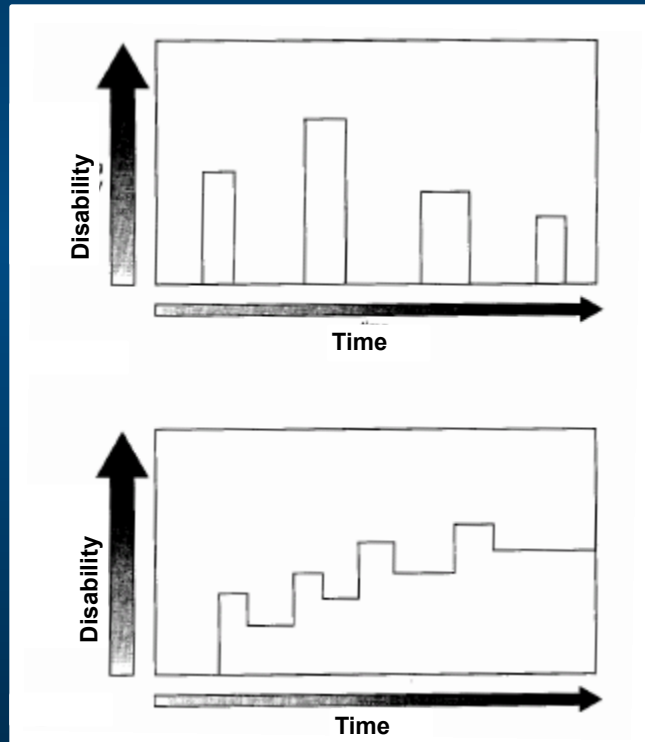


Environmental Factors?

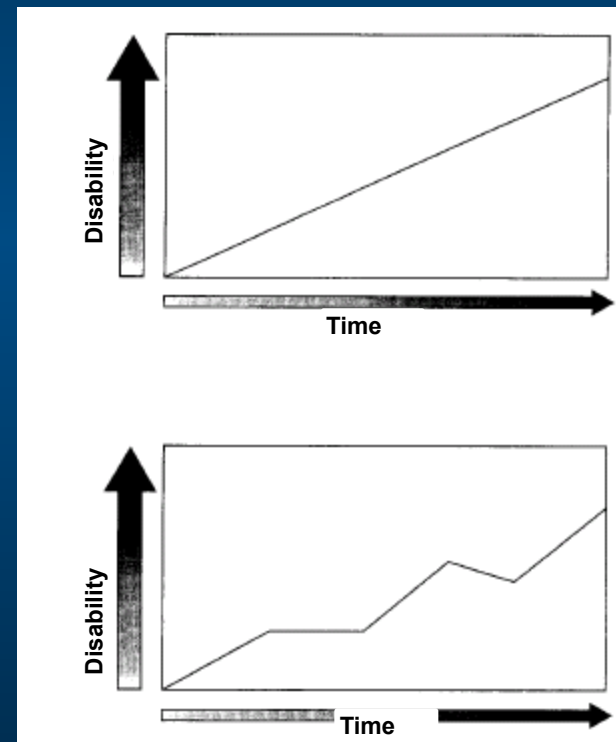
Abnormal immunologic response → MS

Disease Course in MS

- Relapsing-remitting MS (RRMS) is characterized by clearly defined attacks/relapses with full or partial recovery of disability progression



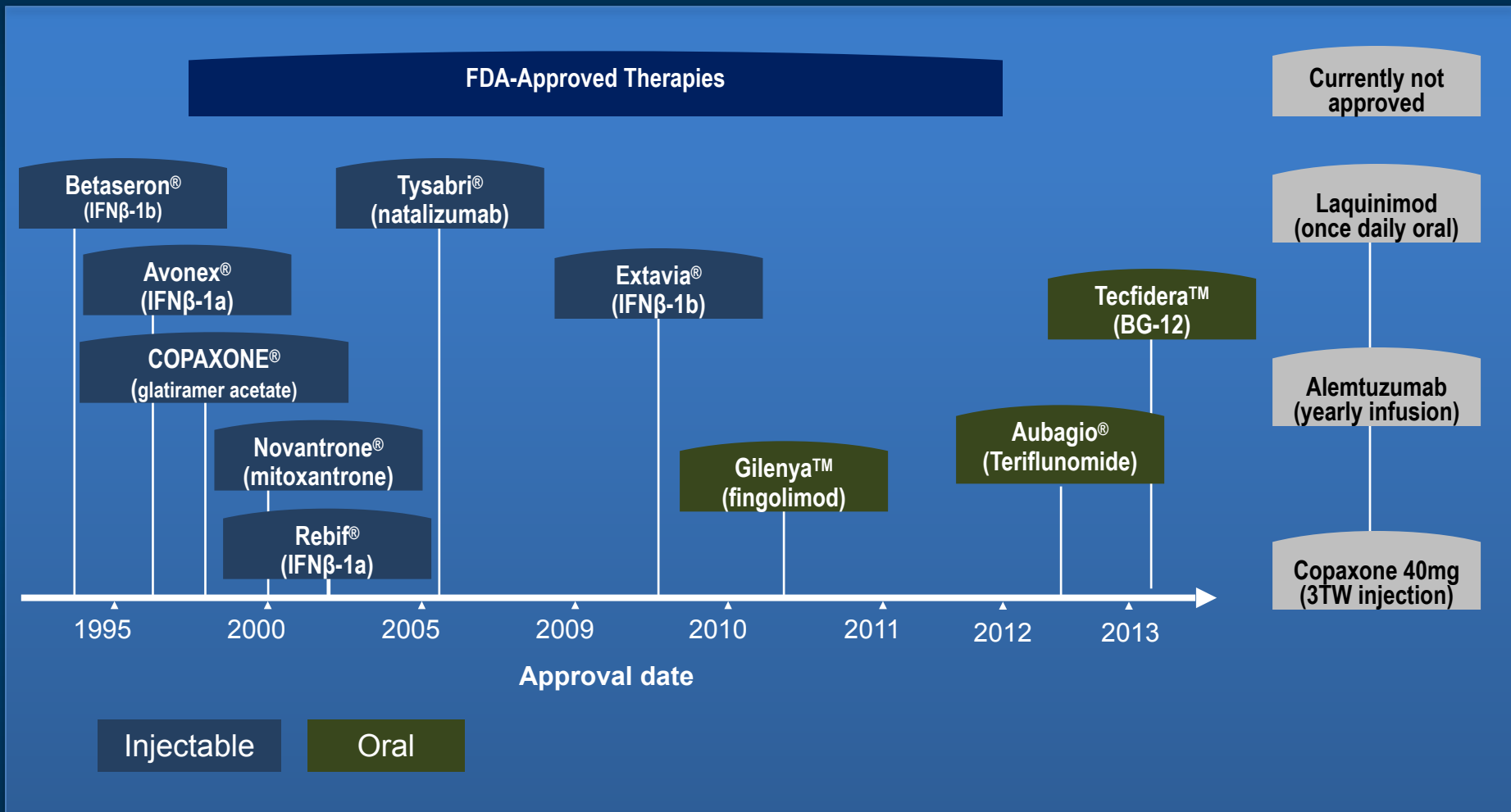
- Primary progressive MS (PPMS) is characterized by progression of disability from diagnosis, with few or no remissions or plateaus



Natural History of MS Over Time: *In Untreated Patients*

- At diagnosis, approximately 77% of people have relapsing MS, while 33% have progressive MS
- If untreated, within 6-10 years, 30-40% of people with RRMS will transition to progressive MS
- In untreated patients, the percentage of patients converting to progressive MS increases over time

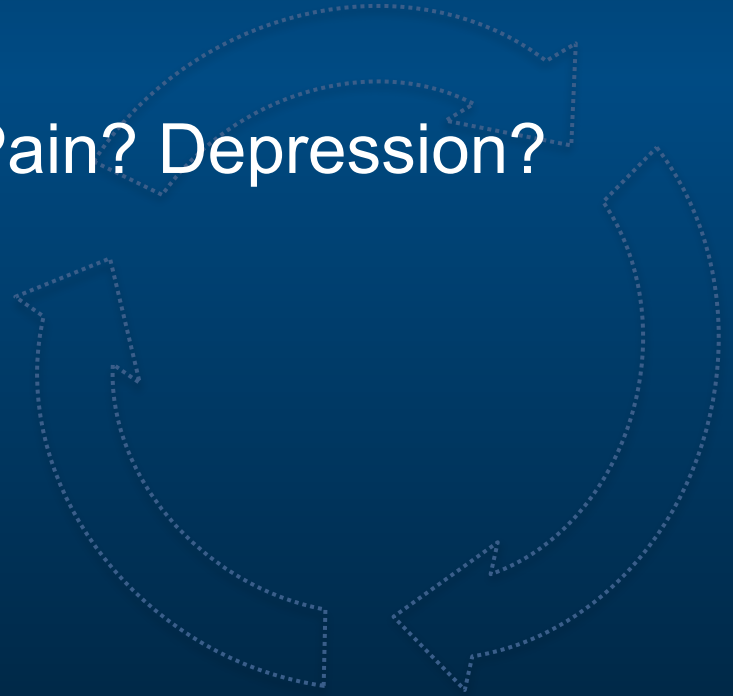
The Changing Therapy Landscape



Goal: Effective Treatment

How Do Physicians Determine Efficacy?

- Frequency of relapses? Severity of relapses?
- New MRI lesions? Enlarging lesions? Brain atrophy?
- Disability progression? Motor function changes?
Cognitive changes?
- Other symptoms? Fatigue? Pain? Depression?



Goal: Effective Treatment

How Do Patients Determine Efficacy?



Balancing Efficacy, Safety, and Tolerability When Taking a Medication

Clinical Efficacy

- Chronic Symptoms: Fatigue, Pain, Mood

Patient Tolerability

- Route and Frequency of Administration
- Tolerability of

New Concept in Efficacy of Therapy: Freedom from Disease Activity

Freedom from
Clinical Activity

- No relapses
- No disability progression



Freedom from
MRI Activity

- No enhancing lesions
- No new or enlarging lesions



Freedom
from
Disease
Activity

Goal: Effective Treatment for the Individual Patient

Individual Efficacy

Defin

Treatme
nt
strategy

Family
planning

Economi
c factors

Patient
adheren
ce

Co-
morbidi
ties

Disease
profile


Risk
toleranc
e

Treatme
nt goals

ons

A Decade (or two) of Progress in Understanding MS

What's Changed?

- 
- **Definitions:** MRI was thought to be a major marker for disease activity, but we now know it's not that simple!¹
 - Advances in imaging technologies provide new information on the relationships between relapses, disability progression, and changes in the central nervous system
 - **Causes:** The idea that MS is caused by one type of immune cell (T cell) has evolved to include a role for many immune cell types²
 - **Therapies:** Current MS therapies target the immune system and are only partially effective^{2,3}
 - This suggests the need for therapies that work in new and unique ways

Goal: Effective Treatment and Active Management of MS

- The goal for both the physician and patient is to understand and gain control of this lifelong, chronic disease
- Empowerment of the patient to actively manage his/her disease will enhance the patient's relationship with his/her health care providers

