



Centre d'Esclerosi
Múltiple de Catalunya

The invisible facets of MS and everyday challenges – clinician's perspective

Mar Tintore

Centre d'Esclerosi Múltiple de Catalunya (Cemcat).
Department of Neurology/Neuroimmunology
Hospital Universitari Vall d'Hebron
Universitat Autònoma de Barcelona
Barcelona

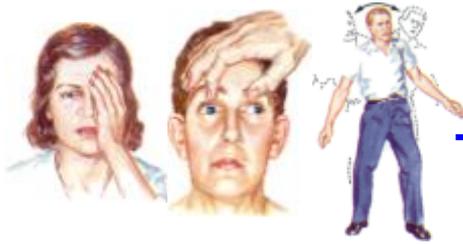


Disclosures

M Tintoré has received compensation for consulting services and speaking honoraria from Bayer-Schering, Merck-Serono, Biogen-Idec, Teva, Sanofi-Aventis, Novartis, Almirall and Roche.

MS diagnosis and prognosis

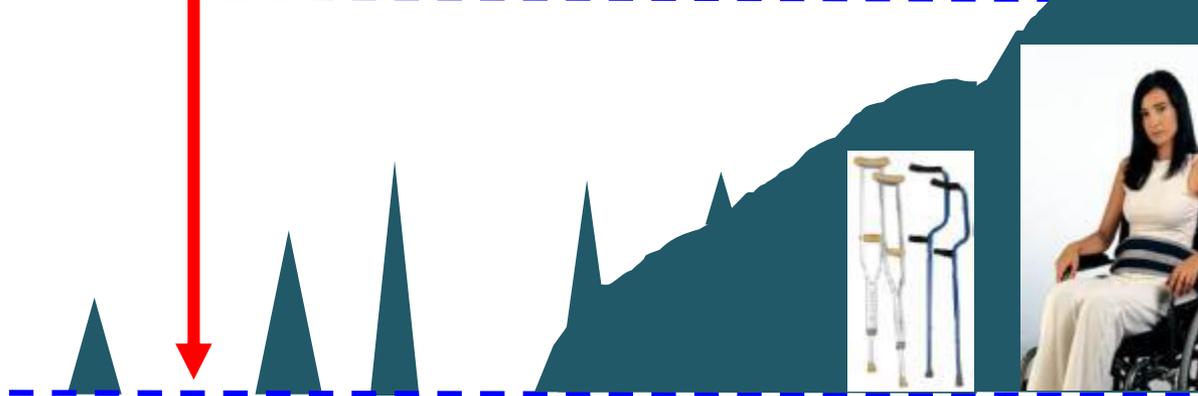
CIS



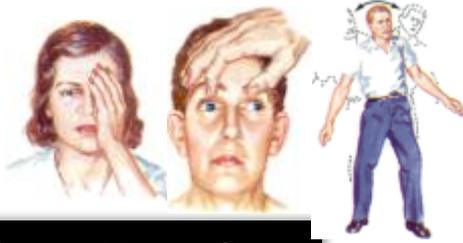
Will I develop further attacks?



Will I develop disability?



CIS



Questions?



Translation to clinical practice



Answers

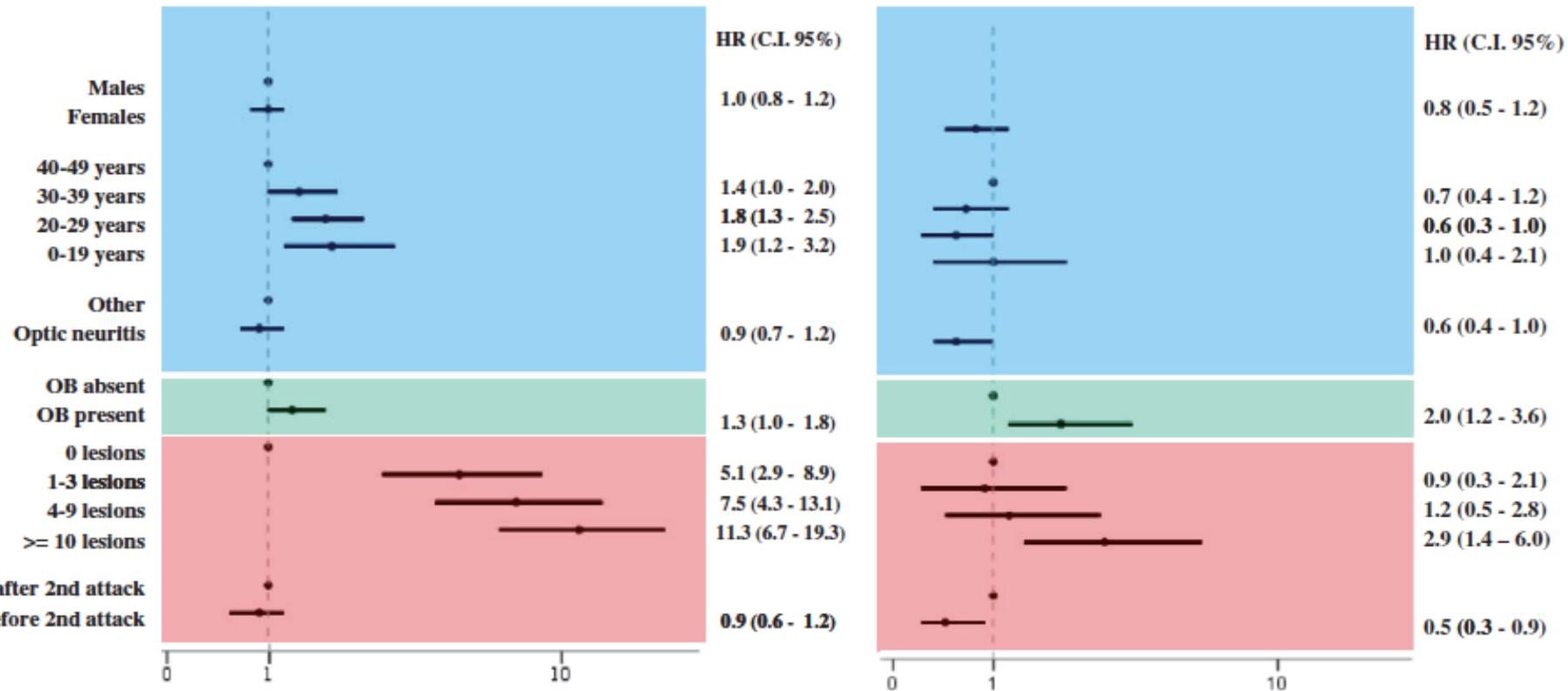


Barcelona CIS cohort: Multivariate analysis at baseline

Risk of conversion to CDMS

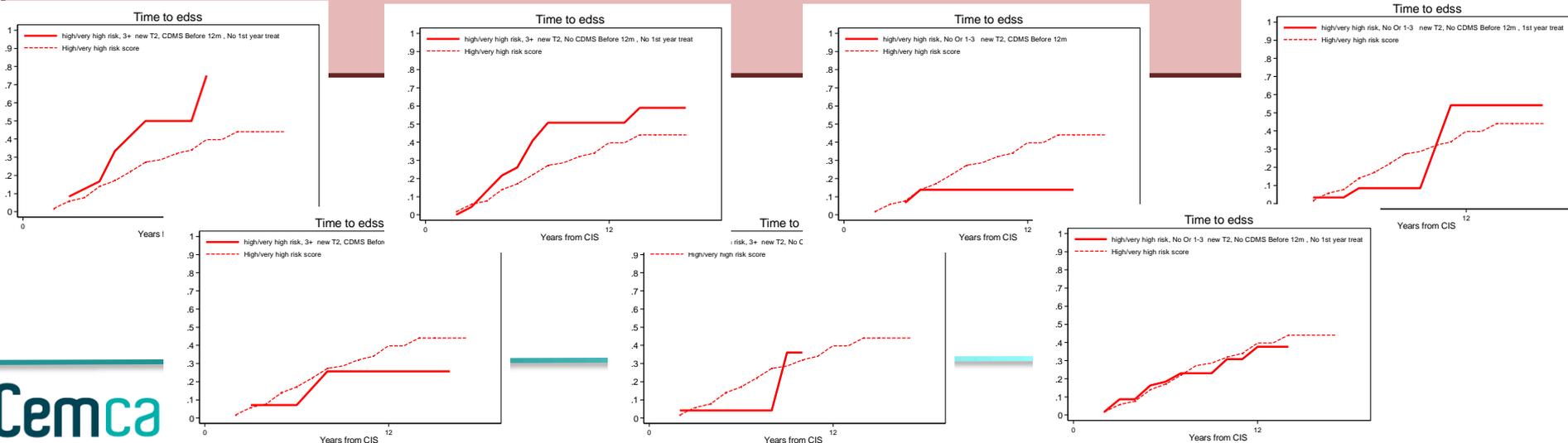
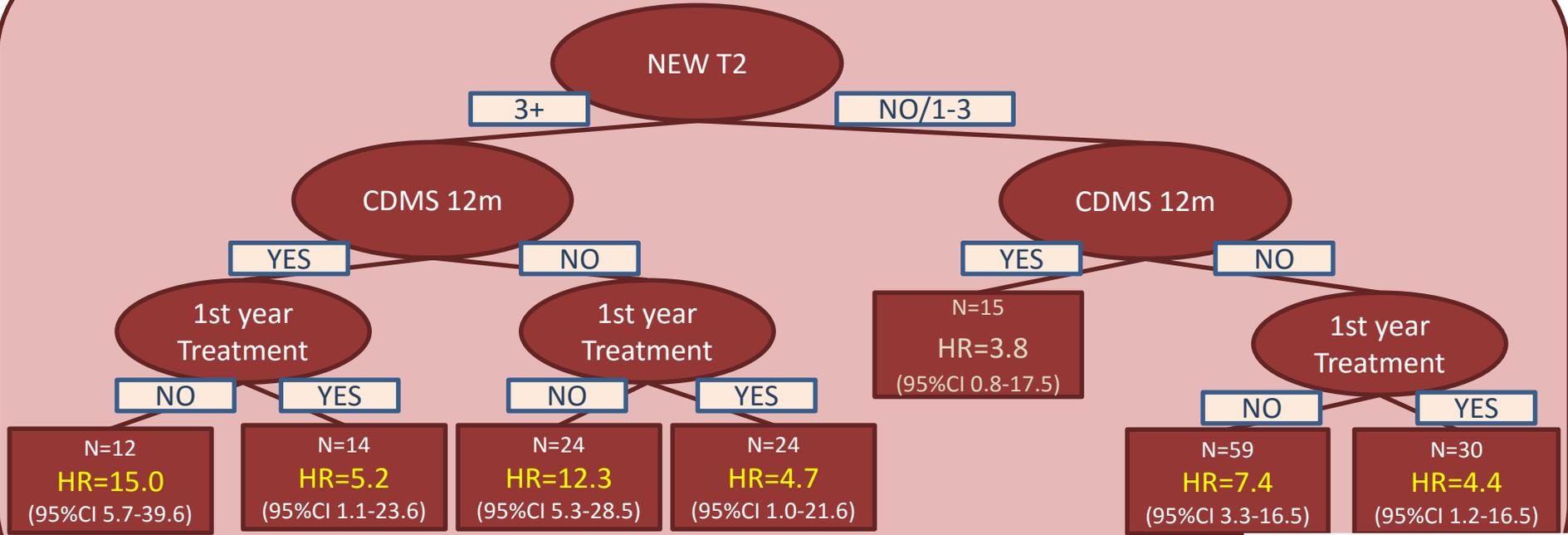
Risk of reaching EDSS ≥ 3.0

(b)



Updated score for EDSS 3.0

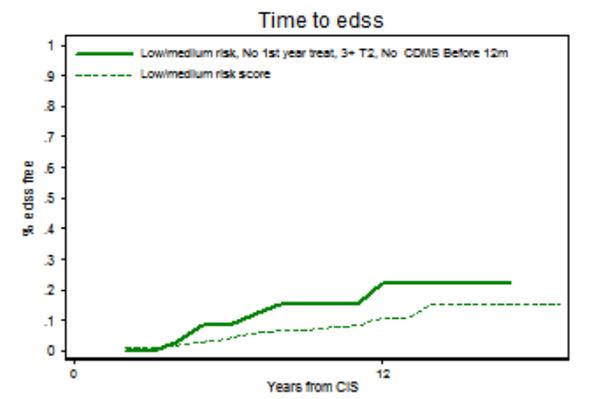
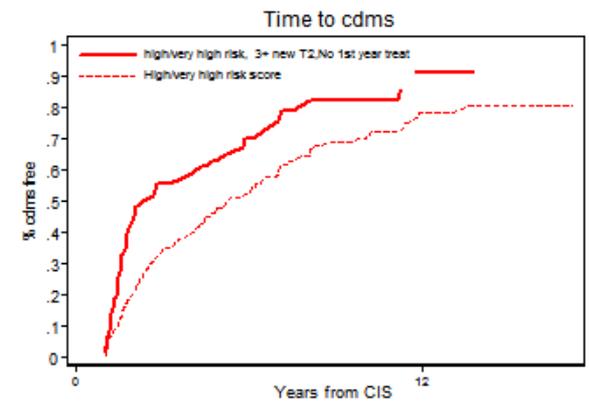
High/ Very high baseline risk for EDSS 3.0



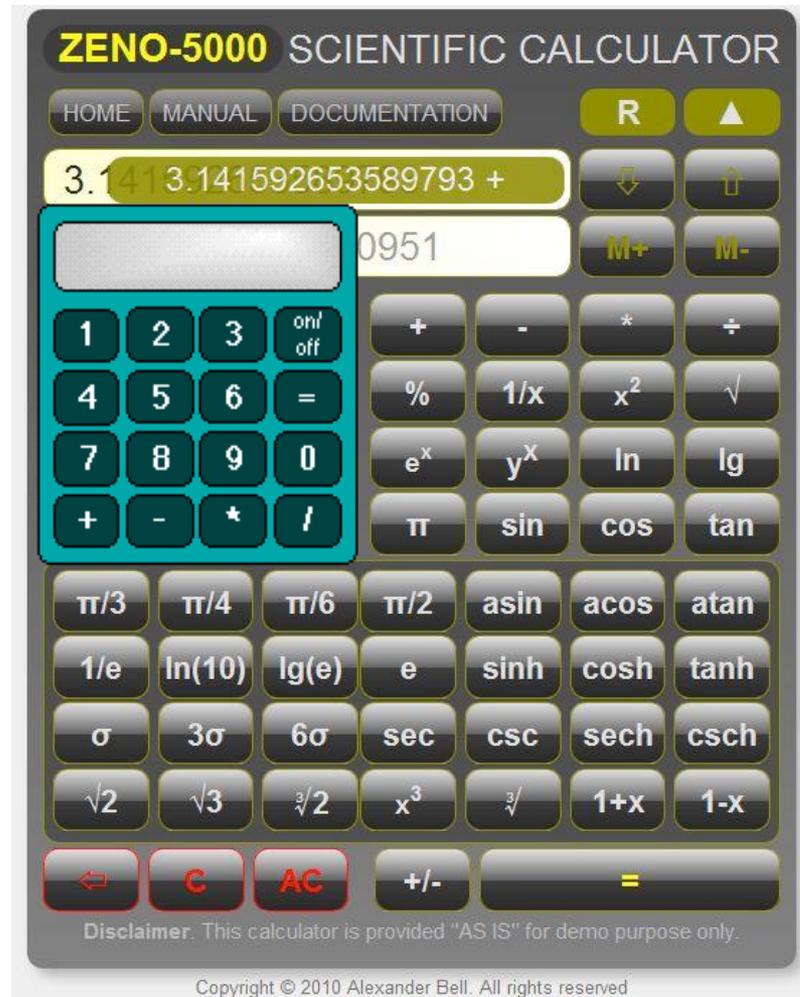
Updated Risk calculator example

Risk Calculator to CDMS and EDSS

BASELINE	CDMS	% CDMS	EDSS	% EDSS	1st YEAR UPDATE
T2 LESIONS <input type="radio"/> No lesions <input type="radio"/> 1-3 lesions <input checked="" type="radio"/> 4-9 lesions <input type="radio"/> >10 lesions			MEDIUM RISK	1 year 3% 2 year 4% 5 year 7% 10 year 15%	NEW T2 <input type="radio"/> No lesions <input type="radio"/> 1-3 lesions <input checked="" type="radio"/> 3+ lesions
OLIGOCLONAL BANDS <input type="radio"/> Not Available <input type="radio"/> NO <input checked="" type="radio"/> YES					FIRST YEAR TREATMENT <input checked="" type="radio"/> NO TREATMENT <input type="radio"/> YES TREATMENT
OPTIC NEURITIS <input checked="" type="radio"/> NO <input type="radio"/> YES					FIRST YEAR CDMS <input checked="" type="radio"/> NO CDMS <input type="radio"/> YES CDMS
SEX <input checked="" type="radio"/> Male <input type="radio"/> Female	HIGH RISK	1 year 20% 2 year 32% 5 year 52% 10 year 72%			
AGE <input type="radio"/> 0-19 years <input type="radio"/> 20-29 years <input checked="" type="radio"/> 30-39 years <input type="radio"/> 40-49 years					



Calculating risks in MS



Can I improve my prognosis ?

MULTIPLE SCLEROSIS IN 2013

Novel triggers, treatment targets and brain atrophy measures

Xavier Montalban and Mar Tintoré

2013 witnessed advances in many aspects of multiple sclerosis (MS) research. Two studies highlighted a potential role for salt as an MS trigger, and one immunomodulatory drug performed well in clinical trials. Moreover, treatment effects of MS drugs were shown to correlate inversely with brain atrophy and disease progression.

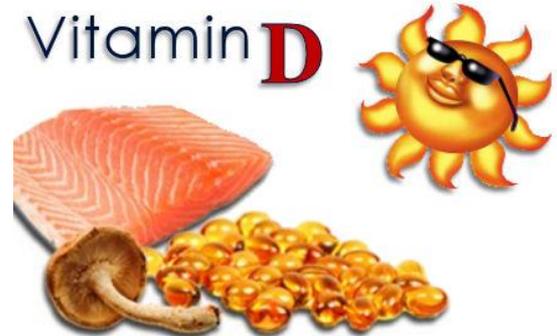
Montalban, X. & Tintoré, M. *Nat. Rev. Neurol.* 10, 72–73 (2014); published online 7 January 2014;
doi:[10.1038/nrneuro.2013.274](https://doi.org/10.1038/nrneuro.2013.274)



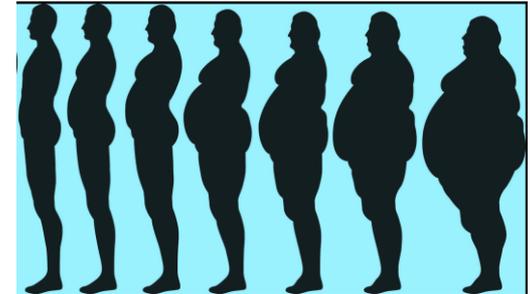
Salt



Smoking



Vitamin D



BMI



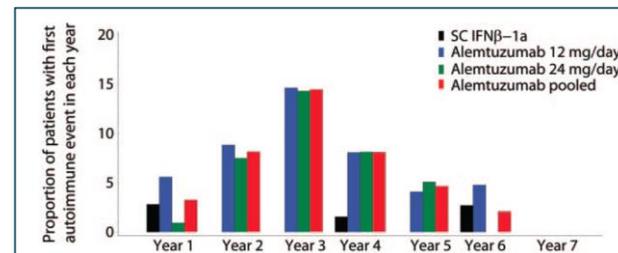
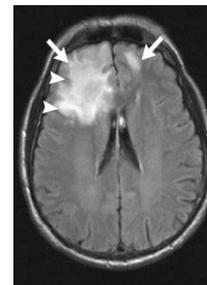
**Epstein Barr
virus**

Is there a treatment for me?

DRUGS LICENCED TO TREAT RELAPSING MS

- 
- ✓ Interferon beta 1a s.c.
 - ✓ Interferon beta 1b s.c.
 - ✓ Interferon beta 1a i.m.
 - ✓ Glatiramer acetate
 - ✓ Mitoxantrone
 - ✓ Natalizumab
 - ✓ Fingolimod
 - ✓ Teriflunomide
 - ✓ Fumarate
 - ✓ Peg IFN
 - ✓ Alemtuzumab
 - ✓ Daclizumab
 - ✓ Ocrelizumab

Which is the risk benefit ratio?

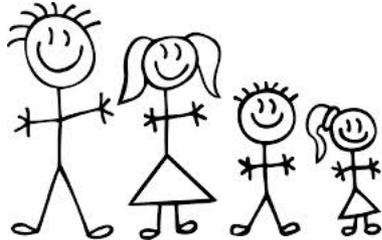


Benefit

Risk

Shared Decision is crucial when discussing treatment options

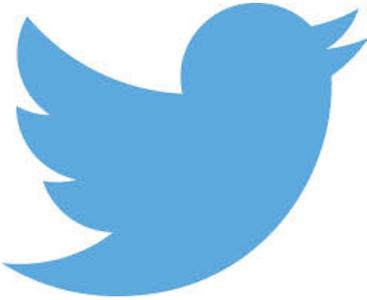
Patient and Disease Profile



Therapy Attributes



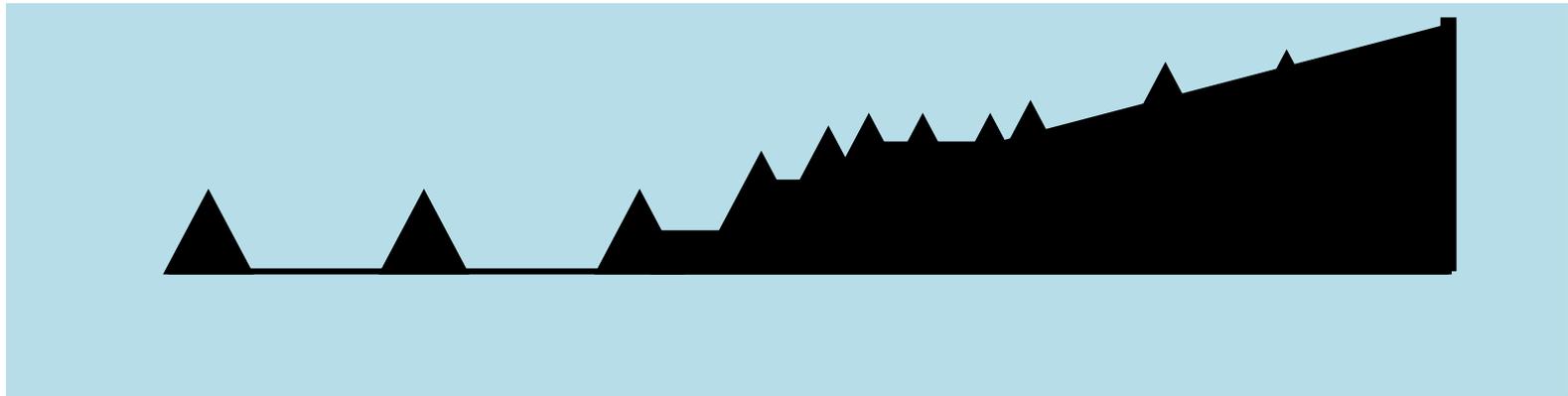
Patient Preferences



Geographic and Economic Factors

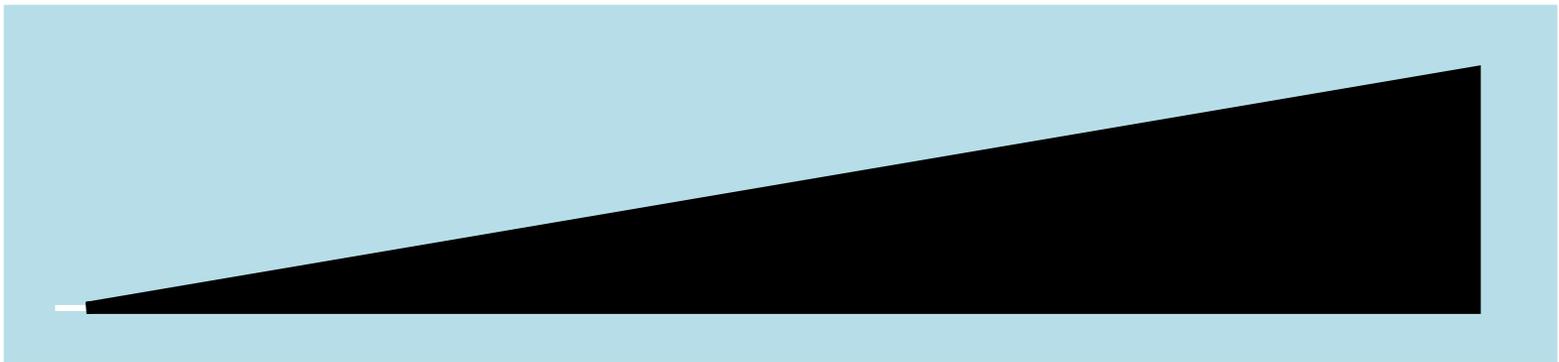


Many questions will arise during MS journey



Relapsing-remitting

Secondary progressive



Primary progressive



- Which are the risks of a pregnancy for my disease?
- Which problems multiple sclerosis can cause to my pregnancy?

Why I am so fatigued?

- Frequency: 75-95%
- Main symptom: 50%
- Interferes with quality of life
- No existing treatment



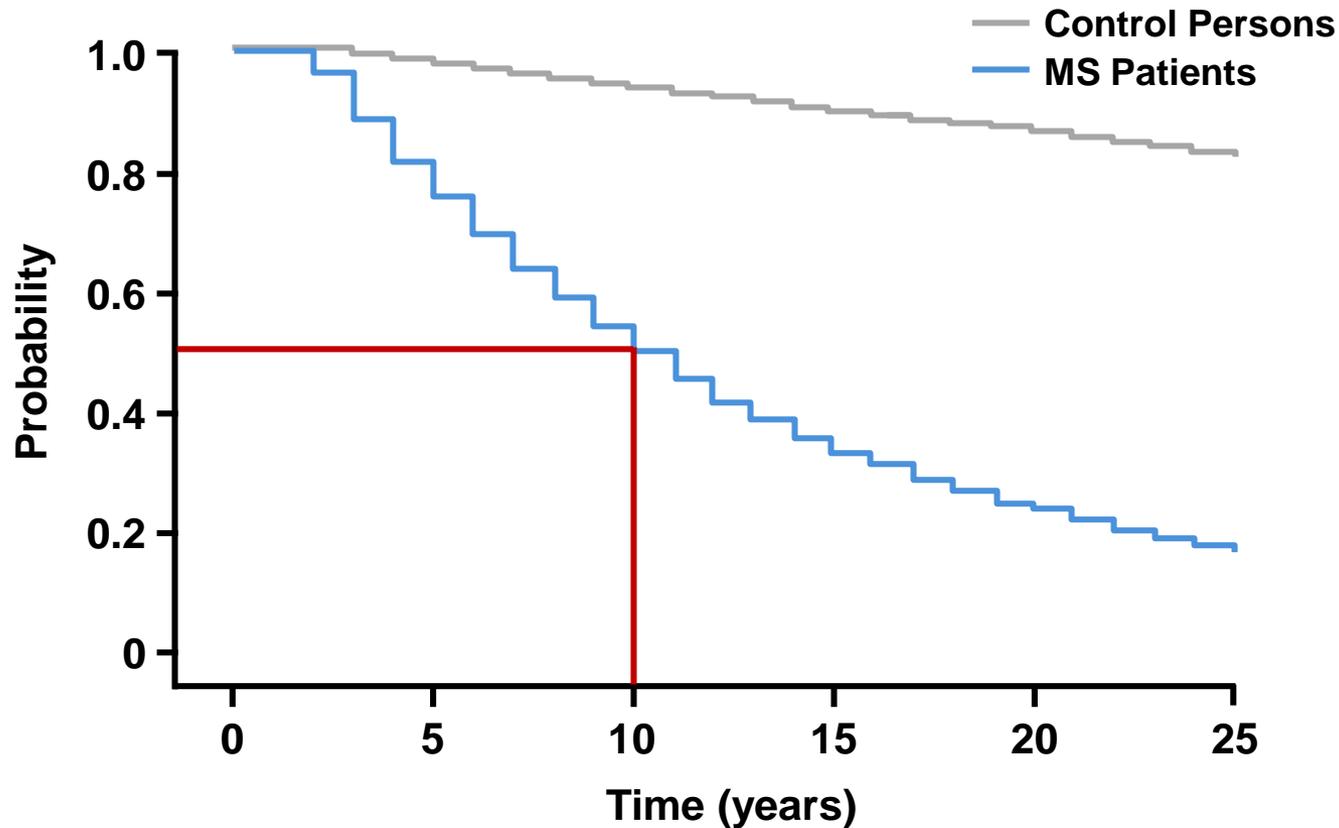
What about depression?

- Frequency, lifetime: 40-55%
- Frequency, 12 months prevalence: 25%
- Interferes with quality of life
- Should be identified and treated



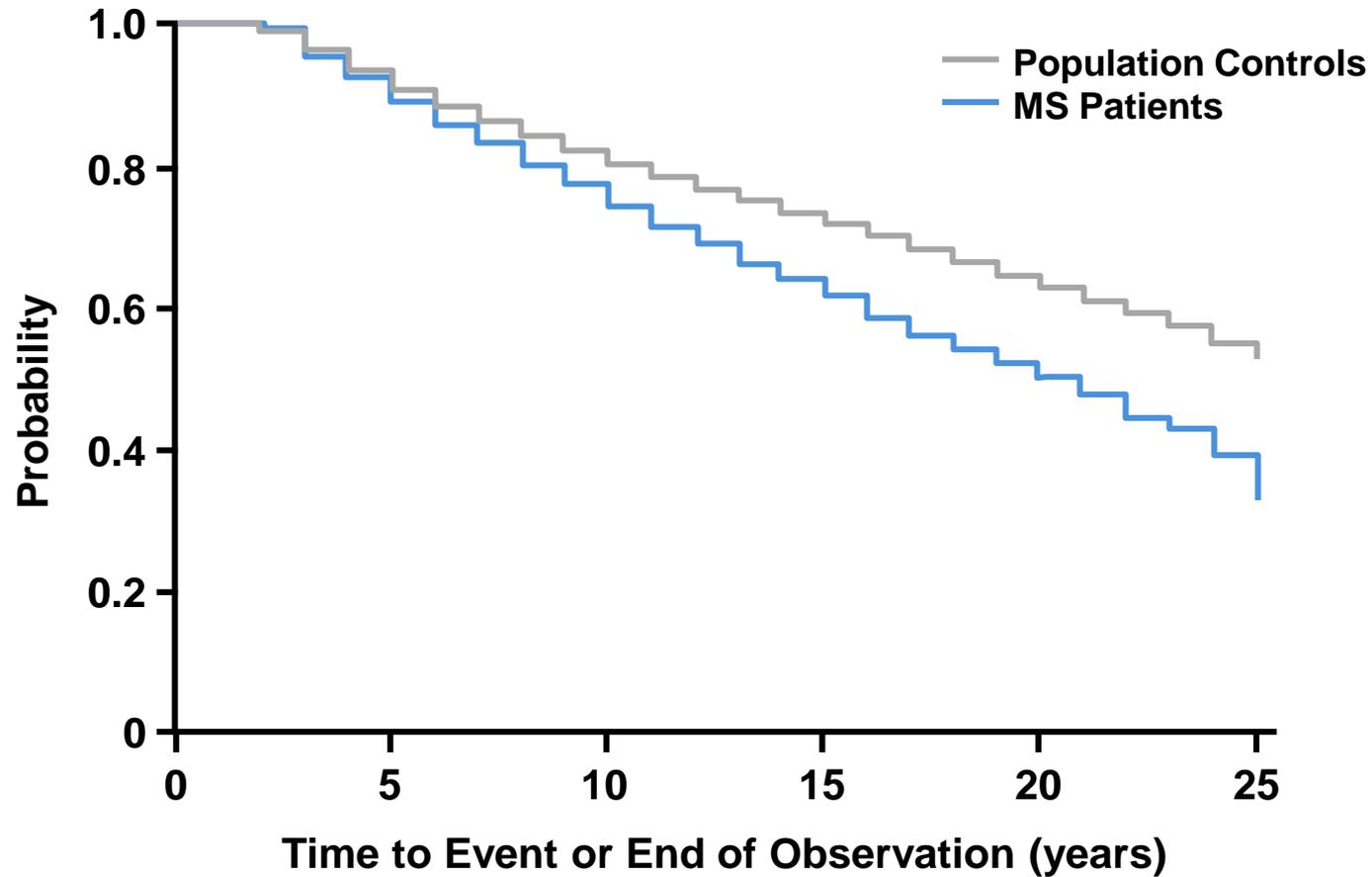
I have been fired out.... Unemployment

Probability of Remaining in Active Employment After Onset of MS



Divorce and Separation

Crude Probability of Remaining in a Relationship After Onset of MS*



*Life table method.

Pfleger CC et al. *Mult Scler.* 2010; 16:121-126.

What about my earnings?

5 years after diagnosis...

- **Mean earnings of MS patients:**
 - 72% of earnings among References
- **Higher education/qualified occupation**
 - Higher levels of earnings
- **Largest relative differences**
 - Those with lowest level of earnings
 - ...lower education
 - ...less qualified occupations
- **Exception: Managers**
 - Large difference MS vs Ref

	MS	% of Ref
All	166	72%
Education		
-Higher	218	78%
-Secondary	145	68%
-Lower	84	53%
Occupation		
Managers	246	68%
Office	218	76%
Manual	134	65%
Unknown	102	55%
No work	28	68%

(1000 SEK ~100 Euro)

Who knows where life will take you the
road is long and in the end
the journey is the destination





MRI