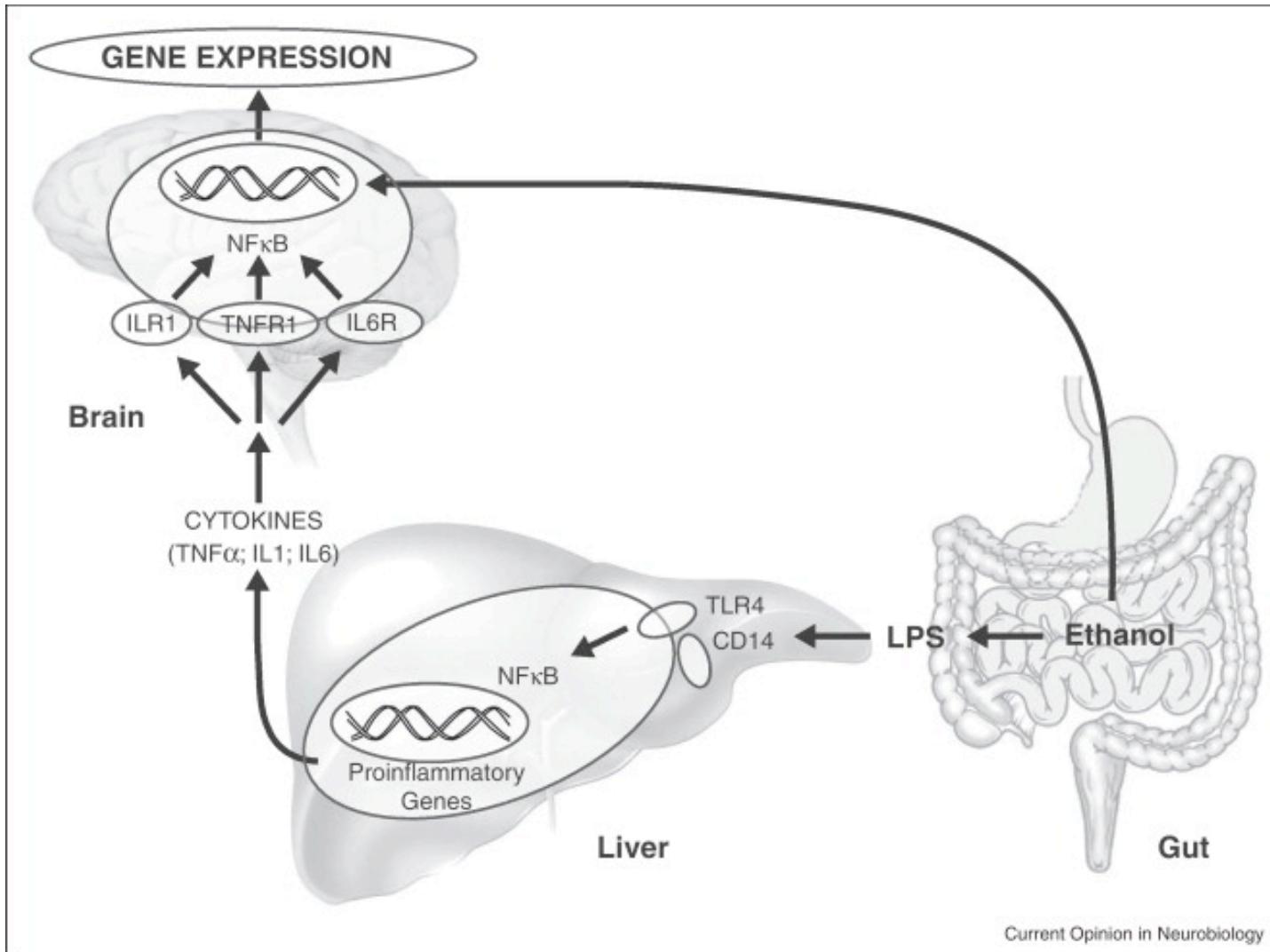


Cannabis and Health

Module 13: Inflammation and the Microbiome

Lecture 2: Chronic Inflammation and Disease States

Alcohol and Inflammation

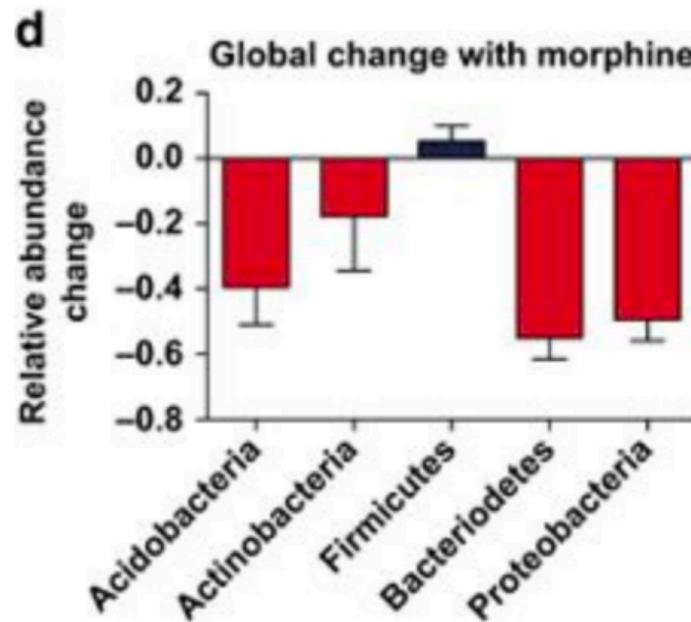


Current Opinion in Neurobiology

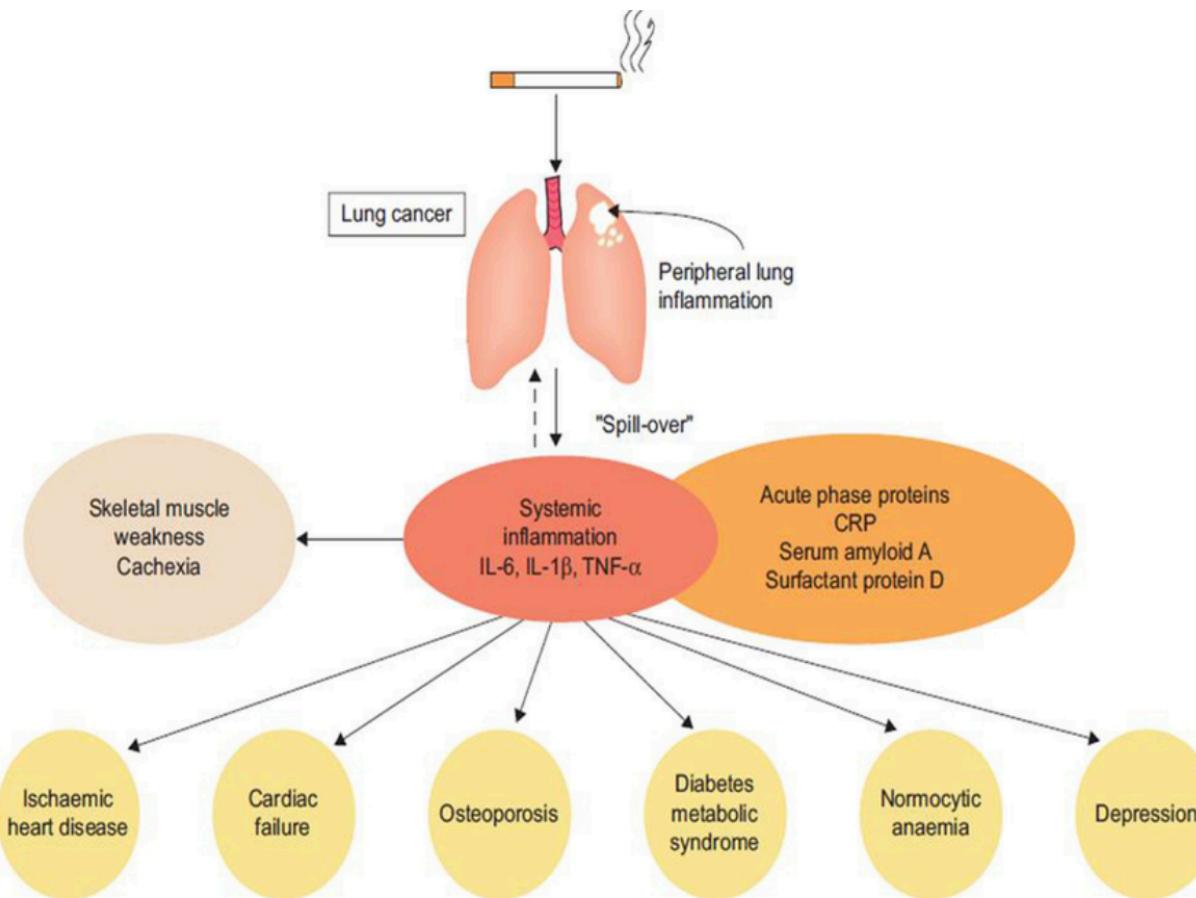
(Mayfield et al., 2013,
Curr Opin Neurobiol)

Inflammation and Opioids

- Opioid use/abuse is known to elevate systemic inflammation
- Recent study-> chronic morphine treatment significantly alters the gut microbial composition and induces preferential expansion of pathogenic bacterial species in mice
- More studies needed on this topic in humans

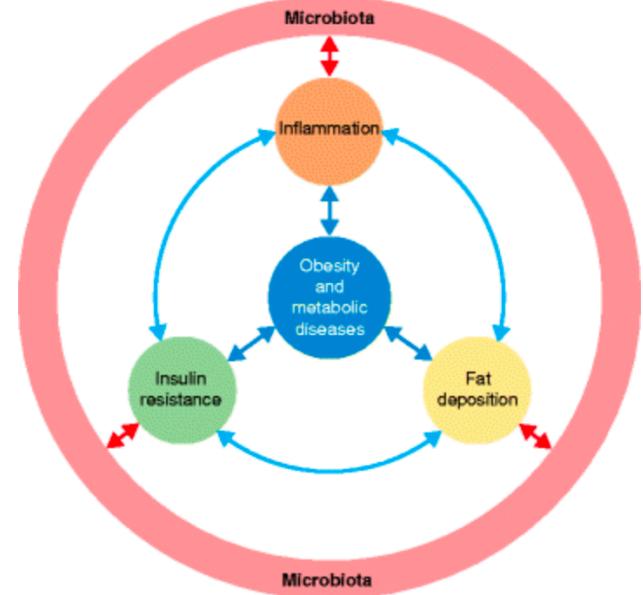
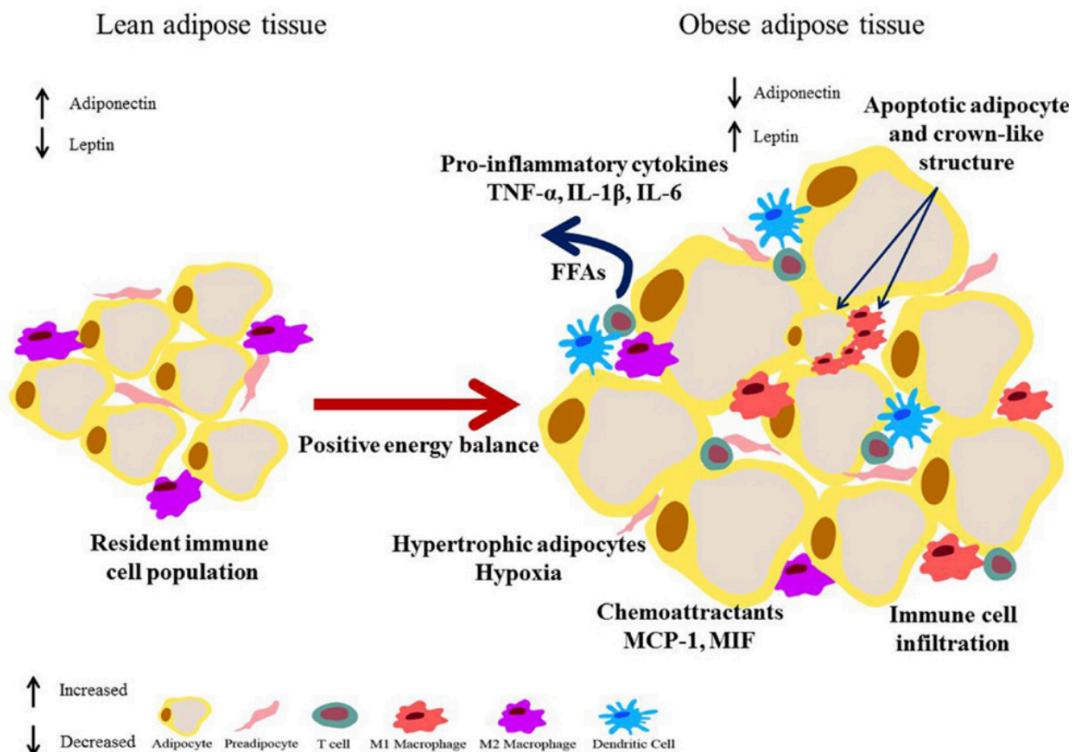


Inflammation and Tobacco Use



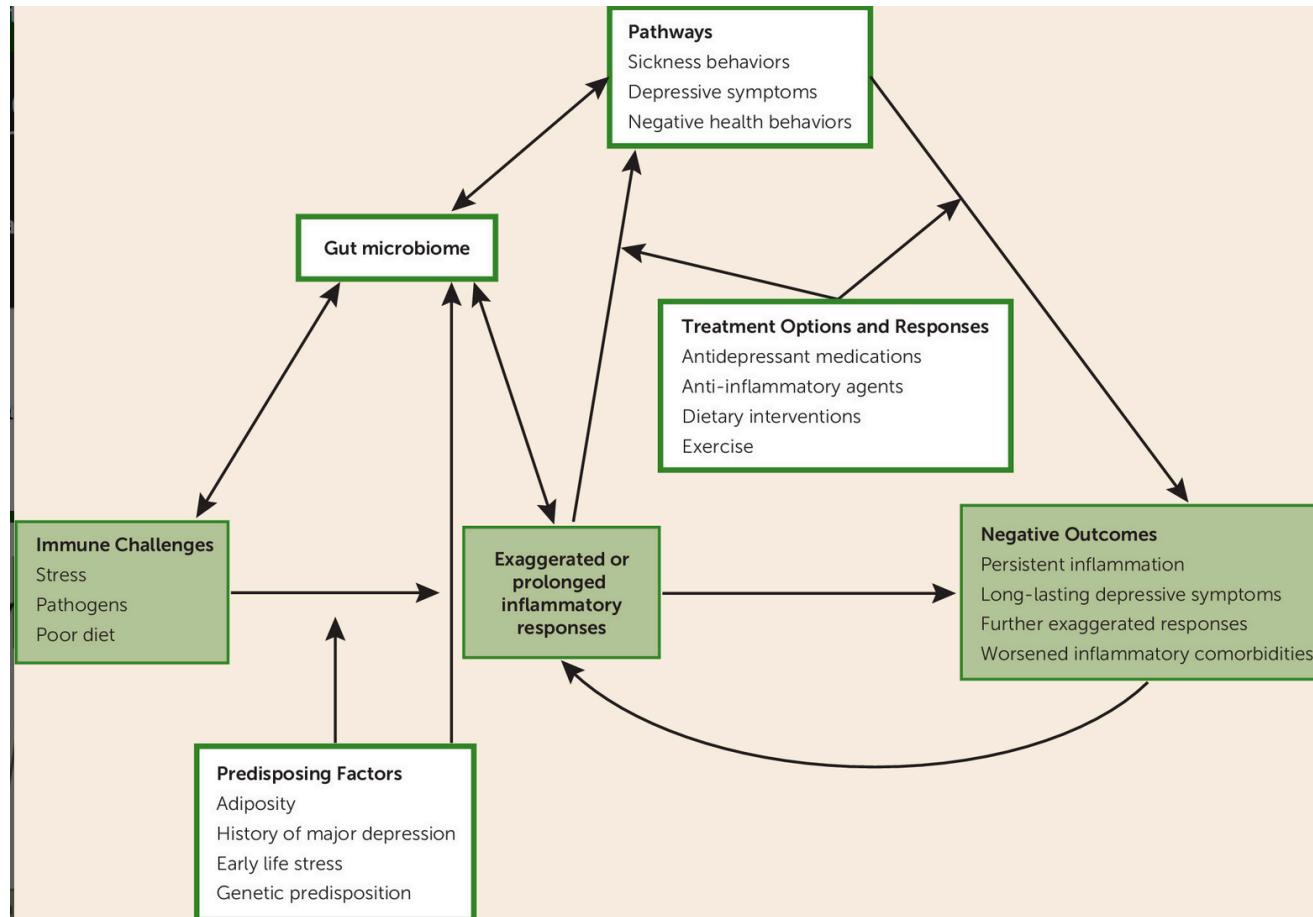
Roca et al. Journal of Translational Medicine 2014, 12(Suppl 2):S3
<http://www.translational-medicine.com/content/12/S2/S3>

Inflammation and Obesity

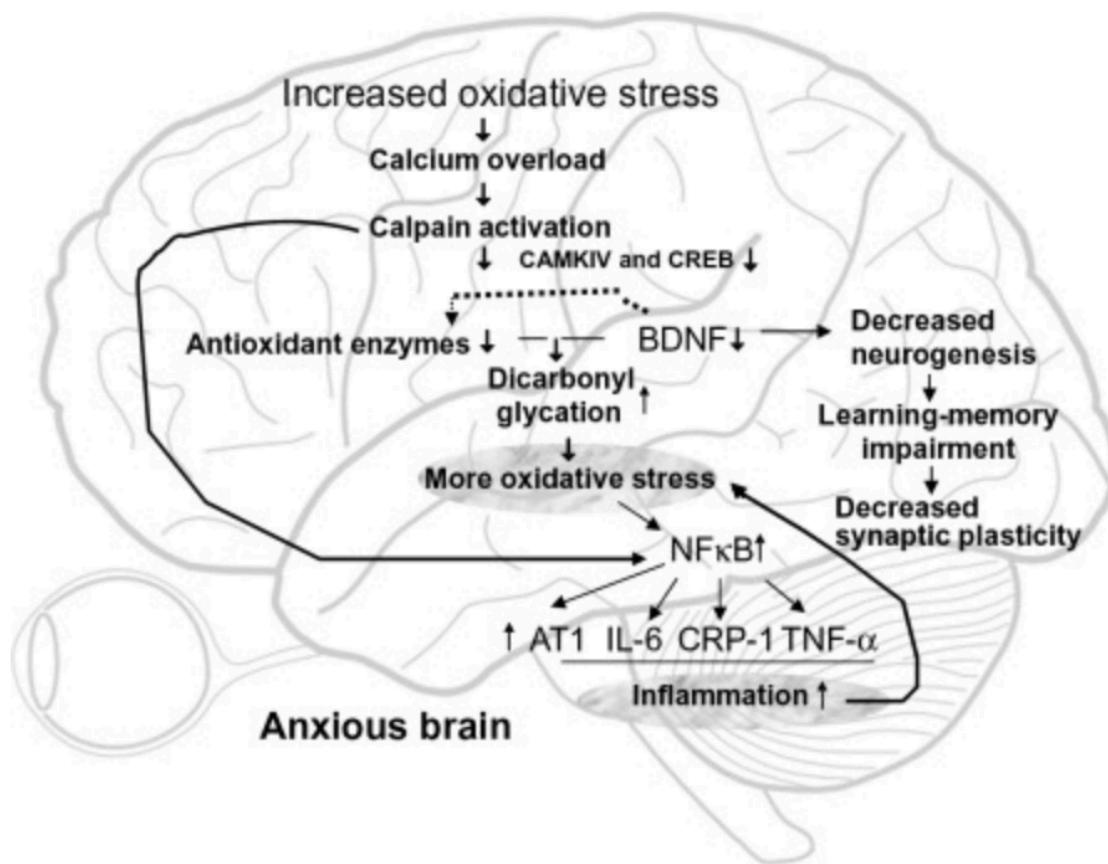


- **Chronic inflammation links the gut microbiota to obesity and insulin resistance**

Inflammation and Mood Disorders



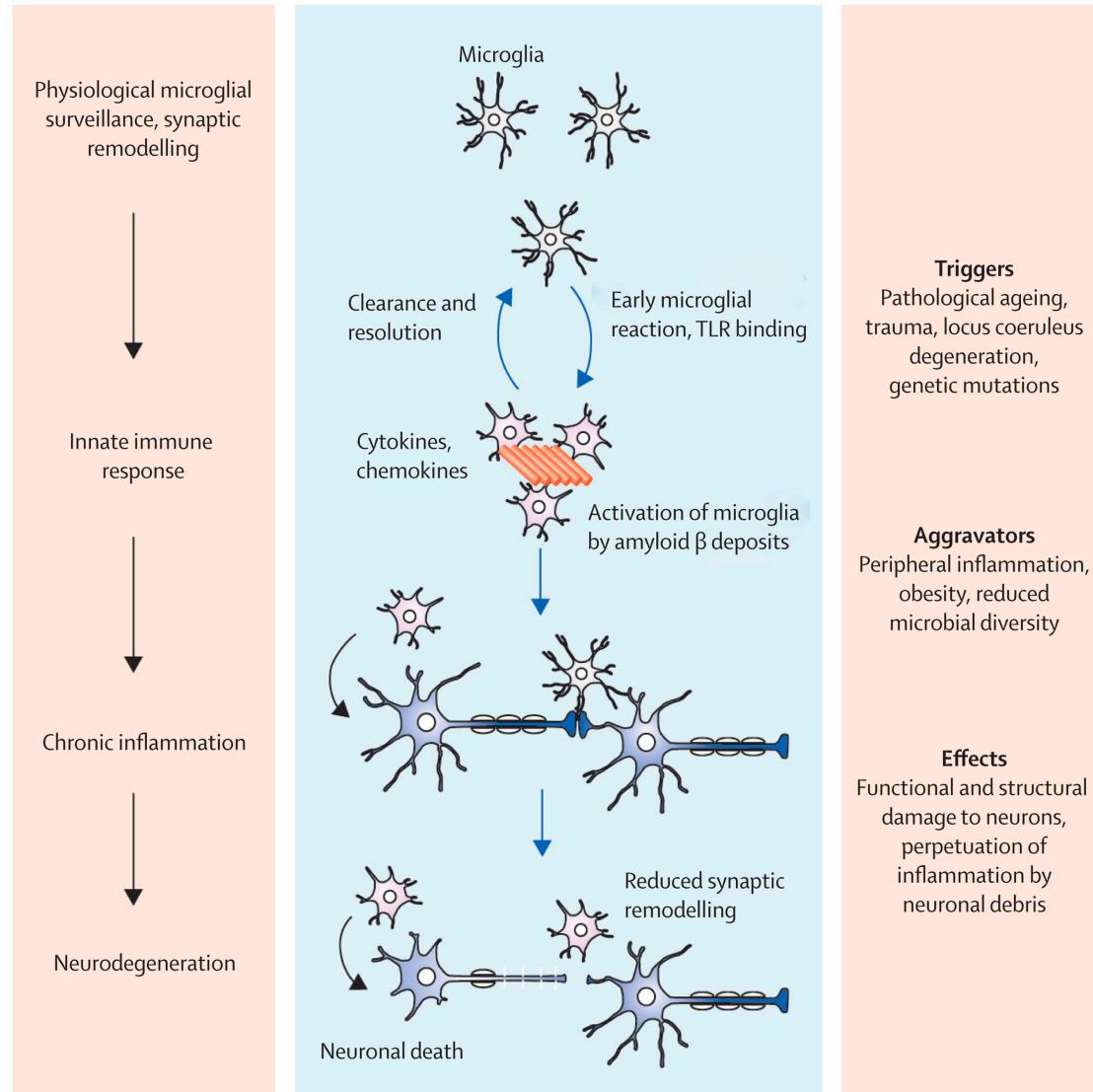
Inflammation and Anxiety



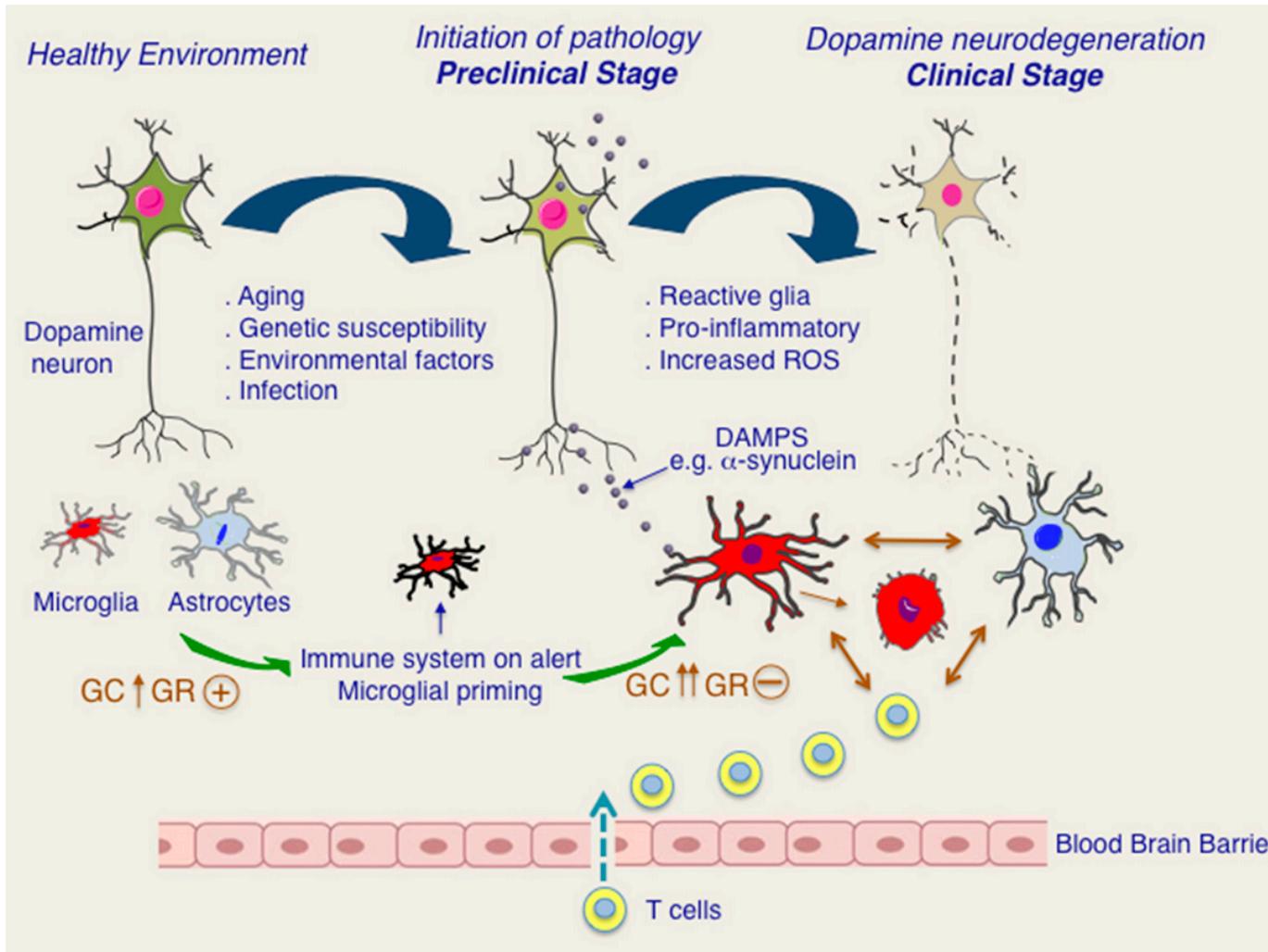
Inflammation and Schizophrenia

- High levels of pro-inflammatory cytokines in the blood and CSF of schizophrenia patients
- Animal models of schizophrenia-> immune disturbance during early life, such as an infection-triggered immune activation, might trigger lifelong increased immune reactivity
- Severe infections and autoimmune disorders are risk factors for schizophrenia
- The vulnerability-stress-inflammation model of schizophrenia
- Immune alterations influence the dopaminergic, serotonergic, noradrenergic, and glutamatergic neurotransmission.

Inflammation and Alzheimer's



Inflammation and Parkinson's Disease



Conclusions

- Inflammation plays a critical role in many disease states!!