

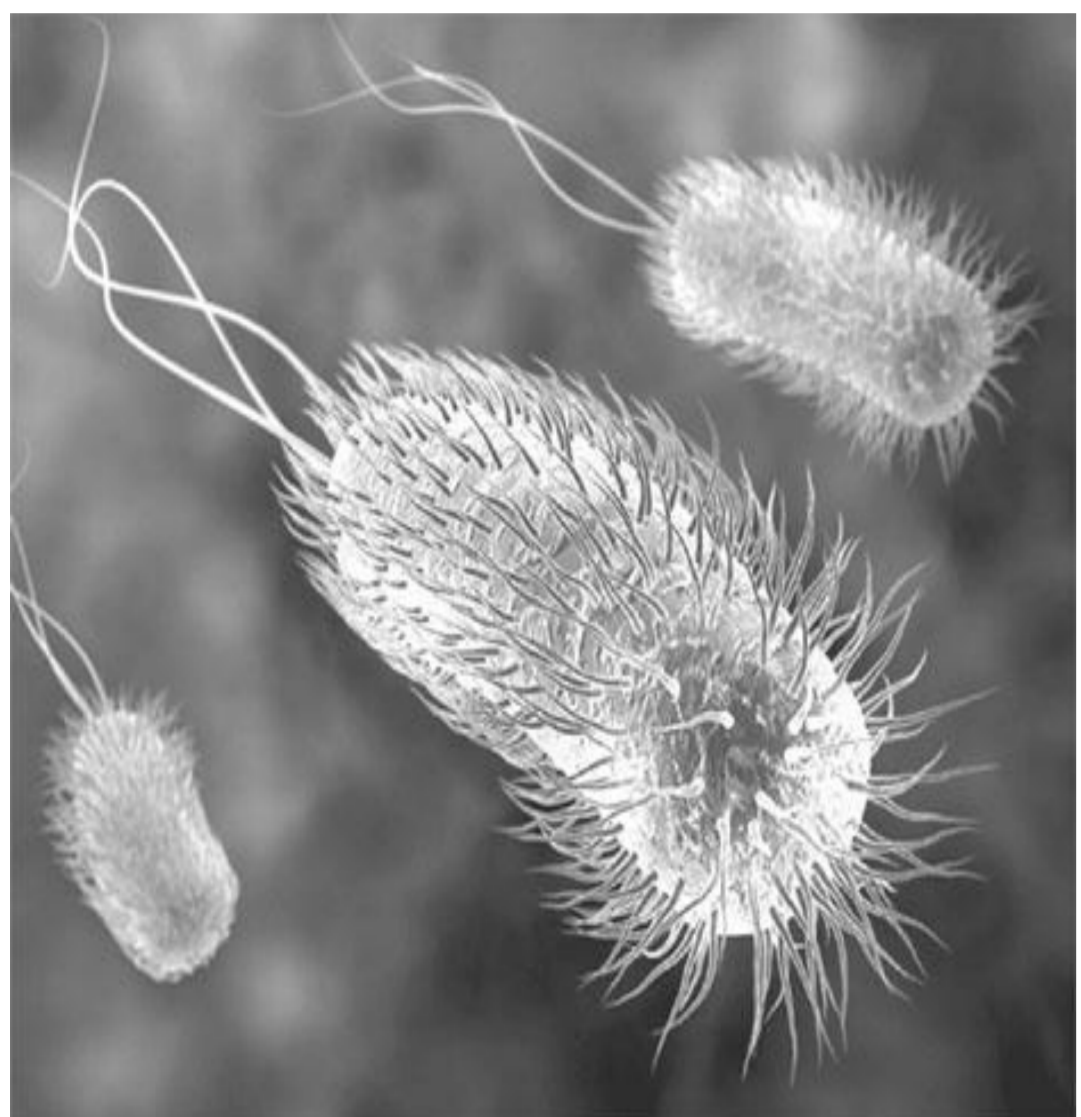
# Encephalitis Lethargica and other Post-Streptococcal Disorders

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## INTRODUCTION

### GROUP A-BETA HAEMOLYTIC STREPTOCOCCUS (GABHS)



Group A streptococcus is the cause of many important human diseases ranging from mild superficial skin infections to life-threatening systemic diseases.

It can induce autoimmune disease in humans with particular involvement of the heart, joints, and brain. Immune cross-reactivity between GABHS and host tissues is well established with regard to molecular mimicry.

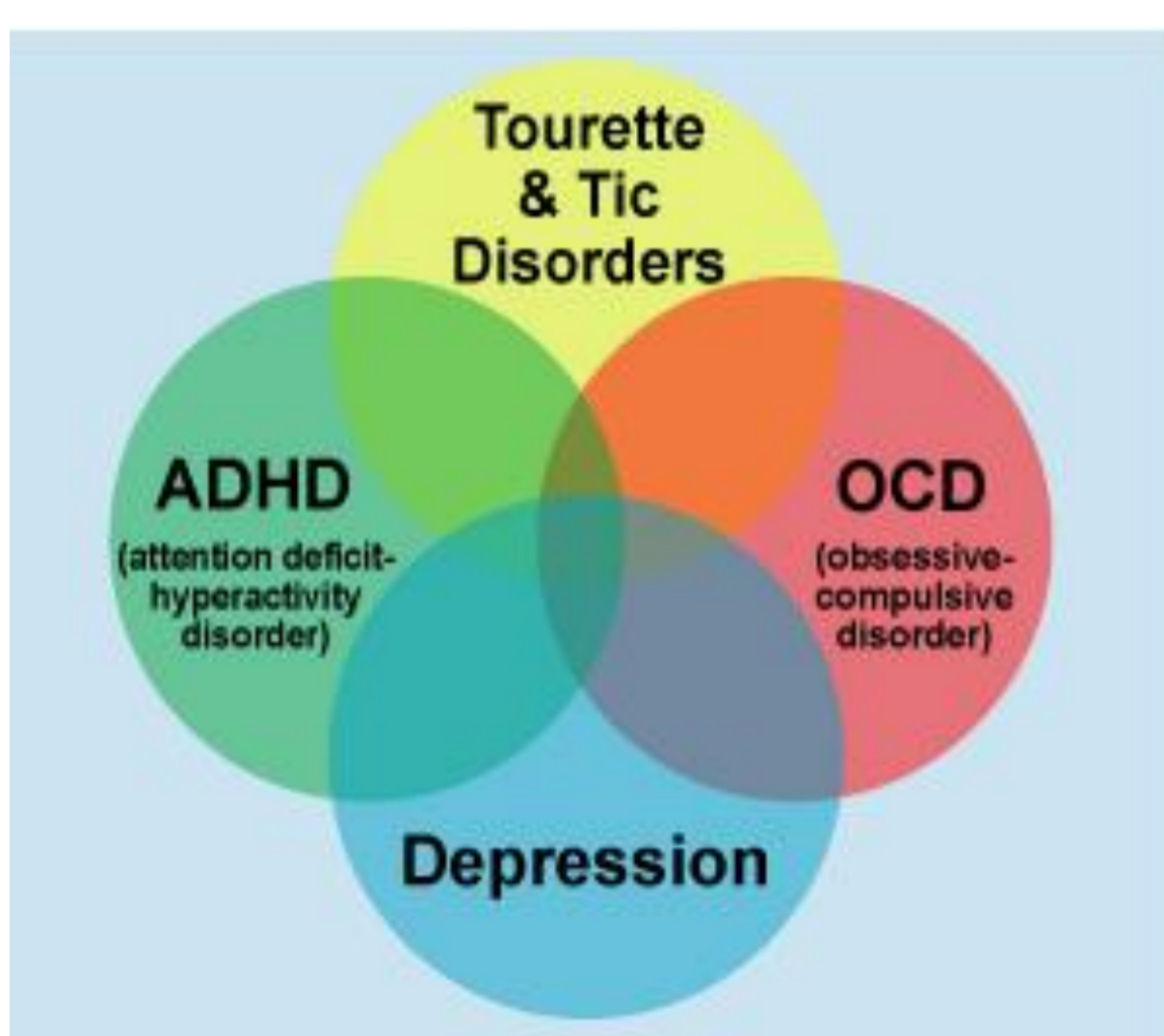
## POST STREPTOCOCCAL DISORDERS

### Encephalitis Lethargica (EL):

- Disorder presenting with pharyngitis followed by sleep disorder, basal ganglia signs and neuropsychiatric disorders
- In acute cases, patients may enter a coma-like state (akinetic mutism).
- No specific treatment for the underlying disorder is available at present.

### Sydenham's Chorea (SC):

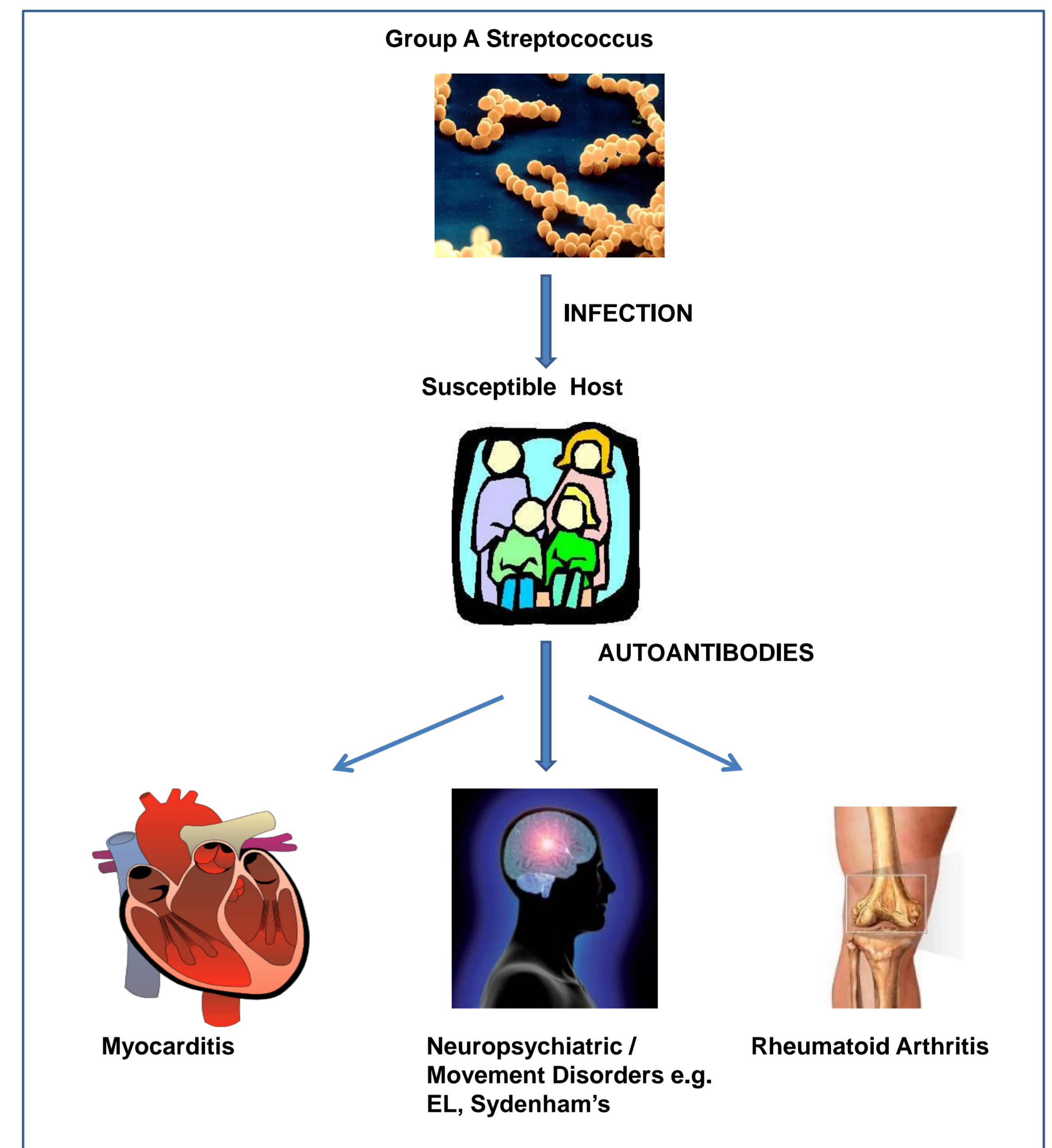
- Characterized by rapid uncoordinated jerking movements affecting primarily the face, feet and hands



### Tourette Syndrome:

- Inherited neuropsychiatric disorder with childhood onset
- Characterized by the presence of multiple physical (motor) tics and one vocal tic

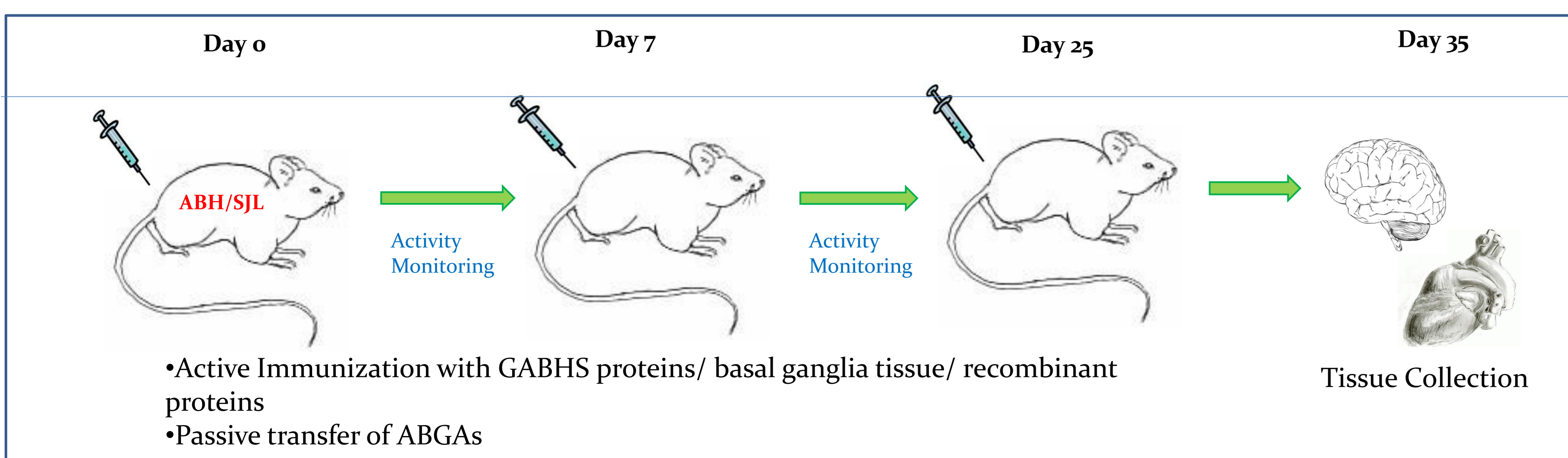
## PATHOGENESIS



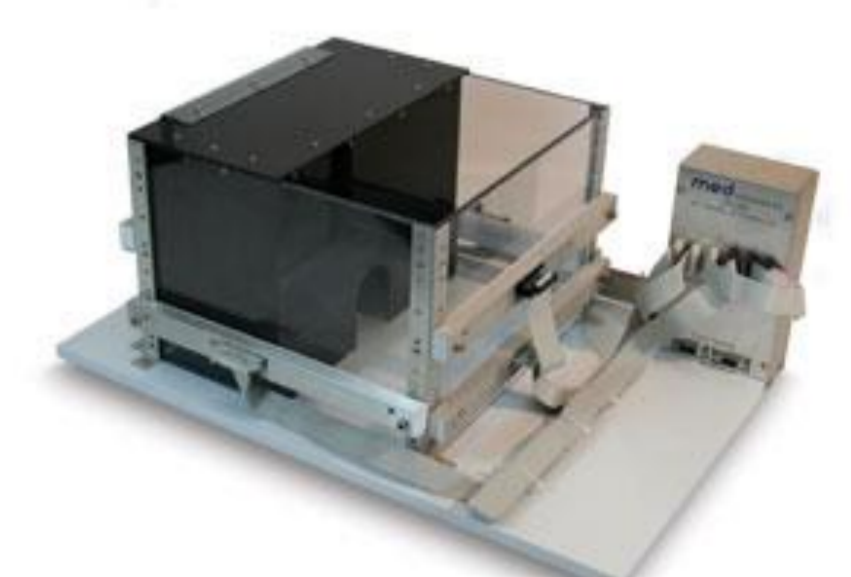
## AIMS

- To set up an animal model that replicates the human condition by :
  - Passive transfer of antibodies purified from EL patient plasma
  - Active immunization with group A streptococcus proteins
  - Active immunization with the target autoantigens
- To affinity purify antigen-specific auto-antibodies to investigate the functional effects of ABGA in primary neuronal cell cultures and cardiomyocytes on:
  - Enolase
  - ATP levels
  - Apoptosis

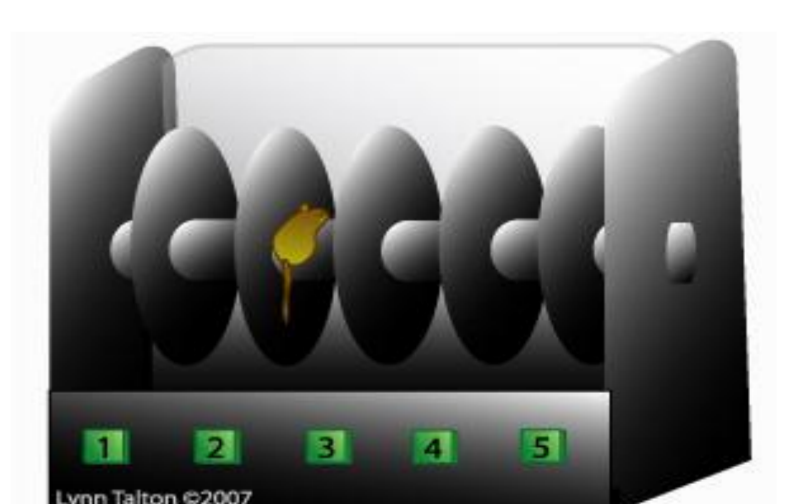
## ANIMAL MODEL



### Activity Monitoring Tests



Activity Chamber



Rotorod

