Creating A Medical School-Oriented Map of Immunologic Concepts

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Introduction

- Immunology is an important part of medical school curriculum
- Contextual mapping can aid in retention
- Commercial immune map resources are not helpful for medical students due to differences in focus of content
- As a result, students need to spend significant time sifting through the presented information and determine what is relevant for their studies and what is outside the scope

Objective

- Create a novel mind map/concept map of immunologic processes with a focus on medically relevant information

Methods: Immunology Map Creation

1. Test various mapping programs/apps for suitability in producing the immunology map.
   a. Platform Availability
   b. Easy of use w/ creating and customizing nodes, branches, and relationship arrows
   c. Formats available for map export, and presence of watermarks
   d. Fee for access to needed features on
   e. Regulations on commercial use.
2. Create a concise and useful key/legend to incorporate onto map.
3. Transfer and edit first draft of immunology map into chosen mapping program

Methods continued: Assessing the Immunology Map

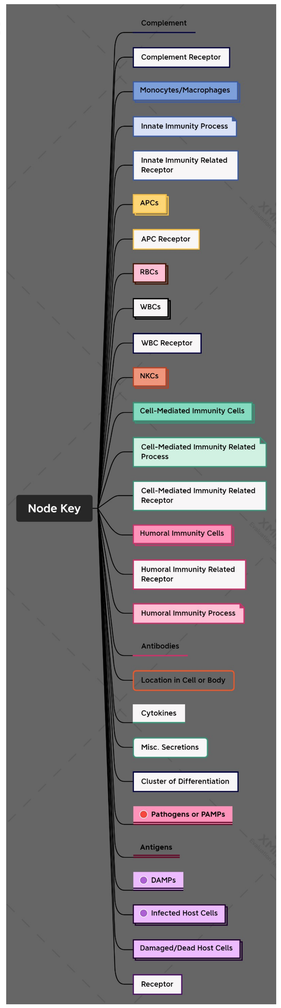
4. Survey medical students on the effectiveness of the immunology map thus far.
   a. Ease of use and effectiveness
   b. Alignment of information to school and STEP 1 learning objectives
   c. Visual presentation of the map
5. Optimize map based on student feedback.
6. Make immunology map available to medical students on a broad scale.

Results

Table 1. Programs and apps tested, ranked highest to lowest in suitability

#1: ThinkSpace	#4: MiMind	#7: GitMind
#2: SimpleMind	#5: Mindomo	#8: MindNode, Mindly, MindMeister, Flowdia, Mind Vector, MindMapX, WriteMapper
#3: XMind	#6: Miro	

A)



B)

Fig. 1. Nodes and Branch Characteristics
A) Key used to designate node coloration and shape
B) Key used to designate branch and relationship arrow coloration and characteristic

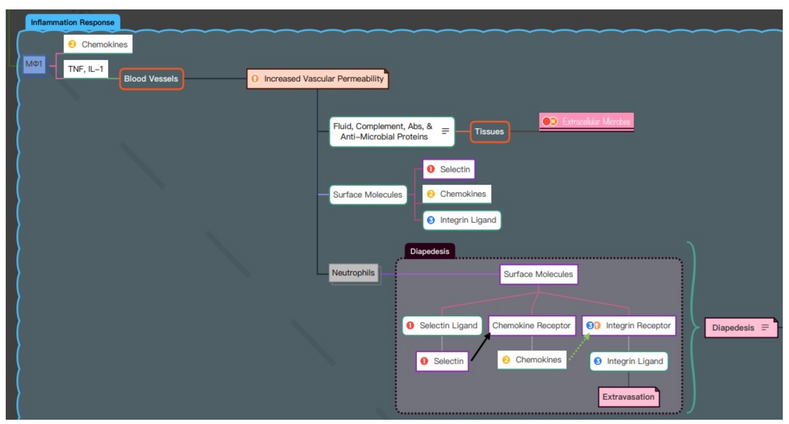


Fig. 2: Selection of Nodes Included in Inflammation Response Pathway in Innate Immunity Section

Future Directions

Continue assessing programs

- First draft completed through XMind
- Why not use XMind app for continuation of project?
  - Not much freedom in spatial placement of child nodes around parental nodes
  - High annual subscription fee
  - Subscription needed to:
    - Export files with high enough image quality for detail
    - Export without watermark
    - Incorporate images
- Confirm commercial use regulations

Optimize the Immune Map

- Streamline introductory details on immune cell functions
- Merge Innate, cell-mediated, and humoral immunity maps into a single map
- Reduce overlaps and repetitions in process descriptions
- Simplify color-designated meanings for node, branch, and arrow coloration and format

References