Emergency Room API Documentation

# API Endpoints

## POST /api/patient

Adds a new patient to the ER queue.  
Request body:  
{  
 "name": "Patient Name",  
 "triageLevel": 1,  
 "reason": "Emergency reason"  
}  
Returns a success message and estimated wait time. Emits socket events for triage level 1 alerts and queue updates.

## GET /api/queue

Retrieves the current ER patient queue sorted by priority.  
Returns an array of patients.

## GET /api/wait-times

Calculates and returns estimated wait times for each triage level based on patient-to-staff ratio.

## DELETE /api/patient/:id

Removes a patient from the queue by their ID.  
Returns a confirmation message and updates the queue.

# Client HTML Functionality

The `client.html` file provides a real-time interface to observe critical updates in the Emergency Room (ER) management system. It connects to the server using Socket.IO and listens for real-time events. Below are the functionalities supported by the client interface:

1. Real-time Critical Patient Alerts:  
 When a patient with Triage Level 1 (Resuscitation) is added, an alert is emitted via Socket.IO. The client receives and displays this notification immediately.

2. Wait Time Estimates:  
 The server emits wait time estimates periodically or upon changes in the queue. The client displays this information dynamically, helping staff or viewers estimate how long patients might need to wait.

3. Staffing Threshold Alerts:  
 If the number of patients exceeds the safe patient-to-staff ratio, the server emits a warning. This message is displayed on the client interface to alert about resource strain.

To run the `client.html` file properly, ensure the following:  
- The server (`server.js`) is running on `http://localhost:3000`  
- Socket.IO is correctly loaded via CDN in the HTML file  
- CORS is enabled in the Express server to allow client access  
- Open `client.html` in a browser using a local server (like Live Server in VS Code) to avoid CORS and `null` origin issues.