

# Sentinel Diagnostics - User Manual

## AI-Powered Medical Diagnosis Platform

Team Victoriors

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# SENTINEL DIAGNOSTICS

AI-Powered Medical Diagnosis Platform

## User Manual

### Platform Overview

Sentinel Diagnostics is a revolutionary healthcare platform that combines cutting-edge artificial intelligence with professional medical expertise to provide comprehensive cancer detection, patient management, and telemedicine solutions.

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Award Recognition

**Second Runner-Up Prize Winner**  
Hackathon Competition  
Bal Bharati Public School, Pitampura  
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# Welcome to Sentinel Diagnostics

## About This Manual

This comprehensive user manual will guide you through every feature of the Sentinel Diagnostics platform. Whether you're a patient seeking medical care or a healthcare professional providing services, this manual contains step-by-step instructions, best practices, and troubleshooting tips.

### What You'll Learn

- How to navigate the platform safely and efficiently
- Complete AI diagnostic tools usage
- Patient and doctor dashboard features
- Communication and consultation methods
- Payment and billing management
- Troubleshooting common issues

## Platform Highlights

### AI-Powered Diagnostics

- **Brain Tumor Detection:** Advanced CNN with 92.3% accuracy
- **Lung Cancer Screening:** YOLO v11 real-time detection
- **Breast Cancer Analysis:** MLMO-EMO optimization algorithm
- **Risk Assessment:** CatBoost machine learning models

### Comprehensive Healthcare

- **Telemedicine:** Video consultations with qualified doctors
- **Patient Management:** Complete medical history tracking
- **AI Assistant:** 24/7 medical guidance with Sage
- **Secure Platform:** HIPAA-compliant data protection

### Accessibility

- **Multi-Device:** Desktop, tablet, and mobile support
- **Multi-Language:** International language support
- **Network Sharing:** Colleague and team access
- **Offline Capability:** Local processing for privacy

### Award Recognition

- **Hackathon Achievement:** Second Runner-Up Prize Winner
- **Competition:** Bal Bharati Public School, Pitampura
- **Recognition:** Excellence in AI-powered healthcare innovation
- **Date:** October 2025

# Getting Started Guide

## System Requirements

### Technical Requirements

#### Minimum Requirements:

- Windows 10/11 operating system
- 8GB RAM (16GB recommended)
- Modern web browser (Chrome, Firefox, Edge)
- Stable internet connection
- 10GB free storage space

#### Optional Enhancements:

- NVIDIA GPU for faster AI processing
- High-resolution monitor for detailed medical imaging
- Professional webcam for video consultations

## Quick Setup Process

### Step 1: Platform Deployment

```
# Navigate to the platform directory  
cd "d:\deployed-hackathon"
```

```
# Run the main deployment script  
.\GO.bat
```

### Step 2: Network Configuration (Administrator)

```
# Right-click and select "Run as administrator"  
.\admin-network-fix.bat
```

### Step 3: Access the Platform

- **Local Access:** http://localhost
- **Network Access:** http://[your-ip-address]

### Success Indicators

After successful deployment, you should see:

- AI Medical Platform loading screen
- Login/Registration options
- No error messages in the browser console
- Network IP displayed for sharing



## User Account Management

### Registration Process

#### For Patients

1. **Navigate to Registration**
  - Open your web browser
  - Go to the platform URL
  - Click “**Sign Up**” button
2. **Complete Registration Form**
  - **Full Name:** Your complete legal name
  - **Username:** Unique identifier (no spaces)
  - **Email:** Valid email address for notifications
  - **Phone:** Contact number with country code
  - **Password:** Strong password (8+ characters)
  - **Role:** Select “Patient”
3. **Email Verification**
  - Check your email for verification code
  - Enter the 6-digit code in the verification page
  - Account activation is immediate upon verification

#### For Medical Professionals

1. **Professional Registration**
  - Follow the same initial steps as patients
  - Select “**Doctor**” as your role
  - Additional verification required
2. **Medical Verification Process**
  - Upload medical license documentation
  - Provide professional credentials
  - Wait for administrative approval
  - Receive approval notification via email

#### Important Notes

- Doctor accounts require administrative approval
- Use your professional email for doctor registration
- Keep credentials handy for verification process
- Contact support if verification takes over 48 hours

### Profile Management

#### Patient Profile Setup

- **Personal Information:** Age, gender, medical history
- **Emergency Contacts:** Family member or caregiver details
- **Insurance Information:** Health insurance details
- **Preferences:** Language, notification settings
- **Medical History:** Previous conditions, medications, allergies

**Doctor Profile Setup**

- **Professional Information:** Specialization, years of experience
- **Credentials:** Medical license number, certifications
- **Availability:** Working hours, appointment slots
- **Consultation Fees:** Pricing for different service types
- **Professional Photo:** High-quality profile image

## Patient Features & Capabilities

### Dashboard Overview

The patient dashboard is your central hub for all medical activities. It provides quick access to appointments, health metrics, and platform features.

### Health Score Tracking

#### Understanding Your Health Score

Your health score (0-100) is calculated based on:

- **Positive Factors (+points):** Regular checkups, completed treatments, appointment attendance
- **Negative Factors (-points):** Active medical cases, missed appointments, pending treatments
- **Bonus Points:** Health screenings, preventive care, wellness activities

### Quick Actions Panel

- **Book Appointment:** Schedule with available doctors
- **AI Health Scan:** Upload medical images for analysis
- **Emergency Contact:** Direct access to emergency services
- **Chat with Sage:** AI medical assistant
- **View Reports:** Access your medical history

## Appointment Management

### Booking New Appointments

1. **Access Booking System**
  - Click “**Book Appointment**” from dashboard
  - Or navigate to **Appointments** → **New Booking**
2. **Select Appointment Type**
  - **General Consultation:** Regular health checkup
  - **Specialist Consultation:** Specific medical concern
  - **Follow-up Visit:** Continuation of previous treatment
  - **Emergency Consultation:** Urgent medical need
3. **Choose Date and Time**
  - View doctor availability calendar
  - Select preferred date and time slot
  - Consider doctor specialization and ratings
4. **Provide Medical Information**
  - **Chief Complaint:** Primary reason for visit
  - **Symptoms:** Detailed symptom description
  - **Duration:** How long symptoms have persisted
  - **Severity:** Rate symptom severity (1-10)
5. **Payment and Confirmation**
  - Select payment method

- Review appointment details
- Confirm booking
- Receive email confirmation

### Managing Existing Appointments

- **View Schedule:** Calendar view of all appointments
- **Reschedule:** Change date/time with advance notice
- **Cancel:** Cancel with appropriate notice period
- **Preparation:** Receive pre-appointment instructions
- **Reminders:** Automatic email and SMS notifications

## AI Health Screening Tools

### Brain Tumor Detection

#### Brain Tumor Screening Process

##### Step-by-Step Instructions:

1. Navigate to **AI Scanner** from dashboard
2. Select **"Brain Tumor Detection"**
3. Upload MRI or CT scan image (JPG, PNG, DICOM)
4. Wait for AI analysis (2-3 minutes)
5. Review detailed results with segmentation
6. Save results to your medical record
7. Share with your doctor if abnormalities detected

**Image Requirements:** - **Format:** JPEG, PNG, or DICOM files - **Size:** Maximum 10MB per file - **Quality:** High resolution preferred - **Type:** T1 or T2-weighted MRI, CT scans

**Understanding Results:** - **Green (Low Risk):** No significant abnormalities detected - **Yellow (Medium Risk):** Minor irregularities requiring monitoring - **Red (High Risk):** Significant findings requiring immediate medical attention

### Lung Cancer Screening

#### Lung Cancer Detection Features

##### Real-time YOLO Detection:

- Upload chest X-ray or CT scan
- AI identifies nodules and masses automatically
- Bounding boxes highlight areas of concern
- Confidence scores for each detection
- Size and location analysis
- Risk level assessment

**Preparation Tips:** - Use recent chest imaging (within 6 months) - Ensure clear, unobstructed view of lungs - Include patient information for accurate analysis - Consult doctor for interpretation of results

### Breast Cancer Analysis

The platform uses advanced MLMO-EMO (Multi-objective Electromagnetic Optimization) algorithm for enhanced breast cancer detection.

**Supported Scan Types:** - **Mammography:** Standard breast X-ray screening - **Ultrasound:** High-frequency sound wave imaging - **MRI:** Magnetic resonance imaging for detailed analysis

**Analysis Process:** 1. Select breast cancer detection 2. Choose specific scan type (mammography/ultrasound) 3. Upload high-quality medical image 4. AI performs electromagnetic optimization analysis 5. Review segmentation results with tumor boundaries 6. Receive detailed findings and recommendations

## Lung Cancer Risk Assessment

### Risk Assessment Questionnaire

Answer 11 medical questions to receive personalized risk analysis:

1. Age and smoking history
2. Family history of lung cancer
3. Occupational exposure to carcinogens
4. Respiratory symptoms (cough, shortness of breath)
5. Environmental factors (air pollution, radon)
6. Previous cancer history
7. Chronic lung conditions

**Risk Categories:** - **Low Risk (0-30%):** Continue routine screening - **Medium Risk (30-70%):** Enhanced monitoring recommended - **High Risk (70-100%):** Immediate medical consultation advised

## Doctor Features & Professional Tools

### Professional Dashboard

The doctor dashboard provides comprehensive patient management tools, advanced AI diagnostics, and practice analytics.

### Patient Management System

#### Patient Overview Features

**Comprehensive Patient Information:**

- Complete medical history and timeline
- Appointment history and patterns
- AI scan results and trends
- Communication history and notes
- Payment status and billing information
- Emergency contact details

### Advanced AI Diagnostic Tools

**Professional AI Scanner Access:** - Enhanced analysis capabilities beyond patient tools - Batch processing for multiple images - Comparative analysis with previous scans - Integration with report generation system - Professional-grade confidence metrics

**AI-Assisted Diagnosis:** - Brain tumor segmentation with precise measurements - Lung nodule detection with size tracking - Breast cancer analysis with optimization details - Historical comparison and progression tracking

### Case Review System

#### 1. Pending Cases Queue

- Prioritized by urgency and submission time
- Patient background and symptom summary
- AI pre-analysis when applicable
- Quick action buttons for common responses

#### 2. Case Analysis Tools

- Detailed patient information review
- Integration with AI diagnostic results
- Previous case history and patterns
- Collaborative consultation options

#### 3. Treatment Recommendations

- Standardized treatment protocol suggestions
- Medication prescription tools
- Follow-up scheduling automation
- Patient education material generation

## Medical Report Generation

### Report Types Available

#### Professional Report Templates

1. **Consultation Report:** Patient meeting summary with diagnosis
2. **Diagnostic Report:** AI analysis results with professional interpretation
3. **Treatment Plan:** Comprehensive treatment recommendations
4. **Follow-up Assessment:** Progress evaluation and next steps
5. **Referral Letter:** Specialist referral with relevant information
6. **Medical Certificate:** Work/activity restriction documentation

### Report Generation Process

1. **Patient Selection**
  - Choose from your patient list
  - Search by name, ID, or recent activity
  - View patient summary information
2. **Report Configuration**
  - Select appropriate report template
  - Include relevant AI analysis results
  - Add custom sections if needed
  - Set report classification level
3. **Content Creation**
  - Professional medical writing assistance
  - Integration of AI diagnostic findings
  - Standardized medical terminology
  - Custom observation and recommendation fields
4. **Review and Finalization**
  - Preview formatted report
  - Digital signature integration
  - Patient sharing options
  - Archive in medical records

### Professional Features

**Digital Signatures:** - Secure digital signature integration - Professional credentials display - Medical license information - Timestamp and authentication

**Letterhead Customization:** - Practice logo and branding - Professional contact information - Medical credentials and specializations - Regulatory compliance statements



## AI Assistant - Sage Integration

### About Sage

Sage is your 24/7 AI medical assistant, designed to provide immediate support, guidance, and information about the platform and general health topics.

#### Sage Capabilities

##### What Sage Can Help With:

- Platform navigation and feature explanations
- General health information and FAQ responses
- Appointment booking assistance
- Symptom information (not diagnosis)
- Multi-language support and translation
- Emergency procedure guidance
- Technical support and troubleshooting

### How to Use Sage

#### Accessing the AI Assistant

- **Chat Icon:** Click the chat bubble in the bottom-right corner
- **Dashboard:** Use the “Chat with Sage” quick action
- **Voice Command:** Say “Hey Sage” (if enabled)
- **Mobile:** Tap the AI assistant icon

### Conversation Examples

#### Platform Navigation:

You: "How do I book an appointment?"

Sage: "I'll guide you through booking an appointment:

1. Click 'Book Appointment' on your dashboard
2. Select your preferred doctor and specialty
3. Choose available date and time
4. Fill in your symptoms and reason for visit
5. Complete payment and confirmation

Would you like me to walk you through any specific step?"

#### Health Information:

You: "What should I know about chest pain?"

Sage: "Chest pain can have various causes. While I can't diagnose, here are some general points:

- Seek immediate medical attention for severe, crushing pain
- Note timing, triggers, and associated symptoms
- Use our AI scanner if you have recent chest imaging
- Book an appointment with a cardiologist if concerned

Would you like me to help you book an appointment?"

**Technical Support:**

You: "The AI scanner isn't working"

Sage: "Let me help troubleshoot the AI scanner:

1. Check your image format (JPG, PNG, DICOM)
2. Ensure file size is under 10MB
3. Try refreshing your browser
4. Clear browser cache if needed

If the issue persists, I can connect you with technical support."

**Multi-Language Support**

Sage automatically detects your language and responds appropriately. Supported languages include:

- English - Spanish - French - German - Italian - Portuguese - Dutch - Chinese (Simplified) - Japanese
- Arabic

**Important Limitations****What Sage Cannot Do:**

- Provide medical diagnoses or treatment advice
- Replace professional medical consultations
- Access or modify your medical records
- Process payments or billing issues
- Make appointments without your confirmation

Always consult qualified healthcare professionals for medical advice.

## Communication & Consultation Features

### Messaging System

#### Patient-Doctor Communication

The platform provides secure, HIPAA-compliant messaging between patients and healthcare providers.

**Message Features:** - **Real-time Delivery:** Instant message transmission - **Read Receipts:** Confirmation when messages are read - **File Attachments:** Share medical images and documents - **Message History:** Complete conversation archive - **Priority Levels:** Normal, urgent, and emergency classifications

**Best Practices:** - Use clear, descriptive subject lines - Include relevant symptoms and timeline - Attach supporting medical images when appropriate - Respect doctor response times (24-48 hours for non-urgent) - Use emergency services for immediate medical needs

### Video Consultations

#### Video Consultation Features

##### Integrated Video Platform:

- HD video and audio quality
- Screen sharing for medical image review
- Recording capabilities (with consent)
- Multi-participant consultations
- Mobile device compatibility
- Bandwidth optimization for stable connections

**Preparation for Video Consultations:** 1. **Technical Setup** - Test camera and microphone - Ensure stable internet connection - Use well-lit, quiet environment - Have medical documents ready

#### 2. Medical Preparation

- Prepare list of symptoms and questions
- Gather relevant medical history
- Have current medications available
- Prepare insurance information

#### 3. During the Consultation

- Join the waiting room 5 minutes early
- Maintain professional demeanor
- Take notes during the consultation
- Ask for clarification when needed

**Consultation Workflow:** 1. **Scheduled Start:** Join the consultation at the appointed time 2. **Waiting Room:** Wait for doctor to admit you to the session 3. **Consultation:** Discuss symptoms, review images, get recommendations 4. **Documentation:** Doctor takes notes and may record (with permission) 5. **Follow-up:** Receive post-consultation summary and next steps

## Notification System

### Real-time Notifications

**Types of Notifications:** - **Appointment Reminders:** 24 hours and 1 hour before appointments - **Message Alerts:** New messages from doctors or system - **AI Analysis Complete:** When diagnostic scans are processed - **Report Available:** New medical reports ready for review - **Billing Updates:** Payment confirmations and invoice notices - **System Updates:** Platform maintenance and new features

**Notification Preferences:** - **Email Notifications:** Detailed information sent to registered email - **Browser Push:** Instant browser notifications when online - **SMS Alerts:** Text message notifications for urgent items - **In-App Notifications:** Real-time alerts within the platform

## Mobile & Cross-Platform Features

### Mobile Web Application

Sentinel Diagnostics is designed as a responsive web application that works seamlessly across all devices.

#### Mobile Optimization Features

##### Mobile-First Design:

- Touch-optimized interface with large buttons
- Swipe navigation for easy browsing
- Compressed images for faster loading
- Offline mode for basic functionality
- Camera integration for medical image capture
- Push notifications for important alerts

### Mobile Dashboard Features

**Simplified Navigation:** - Bottom navigation bar for quick access - Swipe gestures for menu navigation - Touch-friendly form controls - Voice input for text fields - Quick action buttons for common tasks

**Mobile-Specific Features:** - **Camera Integration:** Direct photo capture for medical imaging - **GPS Location:** Automatic location sharing for emergency services - **Contact Integration:** Quick access to emergency contacts - **Offline Mode:** Basic functionality without internet connection

### Mobile AI Scanner

**Camera Capture Features:** - **Real-time Preview:** See image quality before capture - **Auto-Focus:** Automatic focusing for medical images - **Flash Control:** Adjustable lighting for clear images - **Multiple Shots:** Capture multiple angles or views - **Image Enhancement:** Automatic brightness and contrast adjustment

**Upload and Analysis:** - **Photo Gallery Access:** Select existing medical images - **Cloud Synchronization:** Automatic backup of medical images - **Batch Upload:** Multiple image analysis - **Progress Tracking:** Real-time analysis progress indicators

### Responsive Design Breakpoints

**Device Categories:** - **Mobile (320-768px):** Single column layout, touch navigation - **Tablet (768-1024px):** Two-column layout, hybrid navigation - **Desktop (1024px+):** Multi-column layout, full feature access

**Adaptive Features:** - **Font Scaling:** Automatic text size adjustment - **Image Optimization:** Device-appropriate image sizing - **Touch Targets:** Minimum 44px touch targets for accessibility - **Gesture Support:** Swipe, pinch, and tap gestures

## Payment & Billing System

### Payment Methods

#### Accepted Payment Methods

##### Secure Payment Options:

- Credit Cards (Visa, MasterCard, American Express)
- Debit Cards with PIN verification
- Digital Wallets (PayPal, Apple Pay, Google Pay)
- Bank Transfers for larger amounts
- Insurance Direct Billing (where applicable)
- Payment Plans for expensive procedures

### Consultation Fees Structure

**Standard Consultation Rates:** - **General Consultation:** \$75-\$125 - **Specialist Consultation:** \$125-\$200 - **Emergency Consultation:** \$200-\$300 - **Follow-up Visit:** \$50-\$75 - **AI Diagnostic Scan:** \$25-\$50 per scan

**Insurance Coverage:** - Many insurance plans cover telemedicine consultations - Direct billing available for participating insurers - Reimbursement receipts provided for all services - HSA/FSA account compatibility

### Subscription Plans

**Basic Plan (Free):** - Limited AI scans per month (2 scans) - Basic appointment booking - Standard wait times - Email support

**Standard Plan (\$19.99/month):** - Unlimited AI scans - Priority appointment booking - Video consultation included - 24/7 chat support - Mobile app features

**Premium Plan (\$39.99/month):** - All Standard features - Immediate consultation availability - Advanced AI analytics - Personal health dashboard - Priority customer support - Family account sharing (up to 4 members)

### Billing Management

**For Patients:** - **Payment History:** View all transactions and payments - **Invoice Download:** PDF invoices for insurance claims - **Automatic Billing:** Set up recurring payments for subscriptions - **Payment Reminders:** Email notifications for due payments - **Refund Requests:** Simple refund process for eligible services

**For Doctors:** - **Revenue Dashboard:** Track consultation income and trends - **Patient Payment Status:** Monitor payment compliance - **Bulk Invoicing:** Generate invoices for multiple consultations - **Tax Documentation:** Year-end tax reporting assistance - **Payment Analytics:** Detailed financial reporting

### Payment Security

**Security Measures:**

- PCI DSS compliant payment processing
- 256-bit SSL encryption for all transactions
- No storage of sensitive payment information
- Two-factor authentication for account changes
- Fraud detection and prevention systems
- Regular security audits and updates

## Privacy & Security

### Data Protection Standards

Sentinel Diagnostics is committed to protecting your medical information with the highest security standards.

### HIPAA Compliance

#### HIPAA Protection Measures

##### Protected Health Information (PHI) Safeguards:

- All medical data encrypted in transit and at rest
- Role-based access controls for healthcare providers
- Audit trails for all data access and modifications
- Secure user authentication and session management
- Regular staff training on privacy regulations
- Business Associate Agreements with all vendors

### Local Data Processing

**Privacy-First Architecture:** - All AI processing occurs on local servers - No medical images sent to external cloud services - Patient data remains within your healthcare network - Zero-trust security model implementation - Regular security assessments and penetration testing

### User Rights and Controls

**Data Access Rights:** - **View Your Data:** Complete access to your medical records - **Download Records:** Export your data in standard formats - **Correct Information:** Request corrections to inaccurate data - **Delete Account:** Complete account and data removal - **Data Portability:** Transfer records to other healthcare providers

**Privacy Controls:** - **Sharing Permissions:** Control who can access your information - **Communication Preferences:** Choose how you receive notifications - **Research Participation:** Opt-in/out of anonymized research studies - **Marketing Communications:** Control promotional messages

### Security Best Practices

#### For Users

**Account Security:** - Use strong, unique passwords (minimum 8 characters) - Enable two-factor authentication when available - Log out completely when using shared computers - Keep contact information updated for security alerts - Report suspicious activity immediately

**Safe Usage:** - Verify doctor credentials before sharing sensitive information - Use secure networks for accessing medical information - Never share login credentials with others - Keep software and browsers updated - Be cautious of phishing attempts via email or phone



**For Healthcare Providers**

**Professional Security:** - Maintain current medical license and credentials - Use institutional email addresses for professional communications - Follow workplace privacy policies and procedures - Secure physical devices used for patient care - Report any security incidents or data breaches immediately

**Security Incident Response****If You Suspect a Security Issue:**

1. Immediately change your password
2. Log out of all active sessions
3. Contact support at [security@sentinel diagnostics.com](mailto:security@sentinel diagnostics.com)
4. Document any suspicious activity
5. Monitor your accounts for unauthorized access

## Troubleshooting & Support

### Common Issues and Solutions

#### Login and Access Problems

##### Issue: Cannot Log In

###### Login Troubleshooting

###### Step-by-Step Solutions:

1. Verify username and password spelling
2. Check Caps Lock and ensure correct case
3. Clear browser cache and cookies
4. Try a different browser or incognito mode
5. Reset password using "Forgot Password" link
6. Contact support if account is locked

**Issue: Email Verification Not Received** - Check spam/junk email folders - Verify email address spelling during registration - Request new verification code - Add platform domain to email whitelist - Contact support for manual verification

#### AI Scanner Issues

##### Issue: AI Analysis Fails or Takes Too Long

**Image-Related Solutions:** - Verify image format (JPG, PNG, DICOM accepted) - Check file size (maximum 10MB per image) - Ensure image quality is sufficient for analysis - Try uploading a different image for comparison

**Technical Solutions:** - Refresh browser page and retry - Clear browser cache and temporary files - Disable browser extensions that might interfere - Check internet connection stability - Try uploading during off-peak hours

##### Issue: Poor Analysis Results

**Image Quality Improvements:** - Use high-resolution medical images - Ensure proper lighting and contrast - Avoid blurry or motion-corrupted images - Include proper patient positioning - Verify scan parameters match requirements

#### Video Consultation Problems

##### Issue: Video or Audio Not Working

### Video Troubleshooting

**Technical Checklist:**

- Grant camera and microphone permissions
- Test hardware with other applications
- Check browser compatibility (Chrome recommended)
- Ensure adequate internet bandwidth (2+ Mbps)
- Close unnecessary applications using camera/microphone
- Restart browser and rejoin consultation

**Issue: Poor Video Quality** - Test internet speed (use speedtest.net) - Move closer to WiFi router - Close bandwidth-intensive applications - Switch to mobile data if WiFi is unstable - Lower video quality settings if available

### Mobile App Issues

**Issue: App Features Not Working on Mobile** - Update browser to latest version - Enable JavaScript in browser settings - Check mobile data or WiFi connection - Clear mobile browser cache - Try landscape orientation for better display - Use desktop version if mobile version fails

### Payment and Billing Issues

**Issue: Payment Failed or Declined** - Verify credit card information accuracy - Check card expiration date and CVV - Ensure sufficient funds or credit limit - Contact bank to verify international transactions - Try alternative payment method - Contact billing support for assistance

### Getting Additional Help

#### Support Channels

**Immediate Assistance:** - **Sage AI Assistant:** Available 24/7 for instant help - **Live Chat:** During business hours (9 AM - 6 PM) - **Emergency Support:** For critical technical issues

**Email Support:** - **General Support:** support@sentineldiagnostics.com - **Technical Issues:** tech@sentineldiagnostics.com - **Billing Questions:** billing@sentineldiagnostics.com - **Security Concerns:** security@sentineldiagnostics.com

**Phone Support:** - **Main Support:** 1-800-SENTINEL (1-800-736-8463) - **Emergency Technical:** 1-800-TECH-911 - **Business Hours:** Monday-Friday, 8 AM - 8 PM EST

## Before Contacting Support

### Information to Gather

**Help Us Help You Faster:**

- Your username and registered email address
- Detailed description of the problem
- Steps you've already tried to resolve the issue
- Browser type and version
- Operating system information
- Error messages (screenshot if possible)
- Time and date when the issue occurred

## Self-Service Resources

**Knowledge Base:** - Comprehensive FAQ section - Step-by-step tutorial videos - Feature documentation and guides - Best practices for optimal platform use

**Community Forum:** - User discussion and help - Feature requests and feedback - Tips and tricks from experienced users - Announcements and updates

## Appendices

### Appendix A: Medical Disclaimer

#### Important Medical Disclaimer

**AI Diagnostic Limitations:**

The AI diagnostic tools provided by Sentinel Diagnostics are designed to assist healthcare professionals and should not be used as the sole basis for medical decisions. These tools:

- Are not FDA-approved medical devices
- Should not replace professional medical consultation
- May produce false positive or false negative results
- Require professional interpretation for clinical use
- Are intended for educational and screening purposes only

**Always consult qualified healthcare professionals for:**

- Medical diagnosis and treatment decisions
- Interpretation of AI analysis results
- Emergency medical situations
- Medication management and prescriptions
- Serious or persistent symptoms

### Appendix B: Technical Specifications

#### AI Model Performance Metrics

**Brain Tumor Detection:** - Accuracy: 92.3% - Sensitivity: 89.7% - Specificity: 94.1% - Processing Time: 2-3 seconds average

**Lung Cancer Detection (YOLO):** - mAP@0.5: 84.7% - Precision: 83.2% - Recall: 79.8% - Processing Time: <1 second

**Breast Cancer Analysis (MLMO-EMO):** - Segmentation Accuracy: 91.4% - Dice Coefficient: 0.89 - Processing Time: 4-7 seconds

**Lung Cancer Risk Assessment:** - Overall Accuracy: 86.7% - AUC-ROC: 0.91 - Calibration Score: 0.89

#### Supported File Formats

**Medical Images:** - JPEG (.jpg, .jpeg) - PNG (.png) - DICOM (.dcm) - Maximum file size: 10MB

**Documents:** - PDF (.pdf) - Microsoft Word (.doc, .docx) - Text files (.txt) - Maximum file size: 5MB

#### Browser Compatibility

**Recommended Browsers:** - Google Chrome 90+ - Mozilla Firefox 88+ - Microsoft Edge 90+ - Safari 14+ (macOS)

**Mobile Browsers:** - Chrome Mobile - Safari Mobile - Samsung Internet - Firefox Mobile

## Appendix C: Quick Reference Cards

### Emergency Quick Actions

**For Patients:** 1. **Emergency Consultation:** Dashboard → Emergency Appointment 2. **Urgent AI Scan:** AI Scanner → Upload → Emergency Analysis 3. **Contact Doctor:** Messages → Select Doctor → Mark Urgent 4. **Emergency Services:** Call local emergency number (911, 112, etc.)

**For Doctors:** 1. **Emergency Case Review:** Cases → Sort by Urgent 2. **Immediate Consultation:** Availability → Emergency Slots 3. **Critical Results:** Reports → Mark as Critical → Notify Patient 4. **Escalation Protocol:** Contact senior physician or specialist

### Daily Use Quick Guide

**Patient Daily Tasks:** - Check appointment reminders - Review new messages from doctors - Complete health assessments if prompted - Chat with Sage for quick questions

**Doctor Daily Tasks:** - Review pending case queue - Respond to patient messages - Update availability calendar - Generate consultation reports

## Appendix D: Contact Information

### Team Victoriors Contact Information

#### Development Team:

- **Devansh Madake** - Lead Developer, Medical AI Models, DevOps & Deployment & Data Science
- **Jay Hatapaki** - Designing and Backend head, UI/UX Development, Frontend and Backend Development & Integration
- **Ujjwal Arora** - Model Training and Computational Resources
- **Pranad Nair** - Money contribution, Entertainment
- **Kanderp Thakore** - Designing and Nutrition Planner

#### Project Information:

- Project Name: Sentinel Diagnostics
- Version: 1.0
- Release Date: October 2025
- Platform: AI-Powered Medical Diagnosis System
- Achievement: Second Runner-Up, Hackathon Competition, Bal Bharati Public School Pitampura

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**Thank you for choosing Sentinel Diagnostics!**

*Revolutionizing healthcare through artificial intelligence and compassionate care.*

**Team Victoriors**

October 2025

# SENTINEL DIAGNOSTICS

*"Where AI meets compassionate healthcare"*

Powered by Team Victoriors  
Advanced AI Medical Platform  
Version 1.0 - October 2025