StrokeCare Portal - User Manual

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Application: StrokeCare Healthcare Management System

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1. Introduction

1.1 About StrokeCare Portal

StrokeCare Portal is a comprehensive healthcare management system designed to help patients and healthcare providers manage stroke risk assessment and patient care coordination. The system provides:

- **Secure Patient Registration** - Self-service patient onboarding
- **Risk Assessment** - Automated stroke risk calculation
- **Appointment Management** - Book and manage doctor appointments
- **Health Monitoring** - Track medical history and health metrics
- **Role-Based Access** - Separate interfaces for patients, doctors, and administrators

1.2 System Requirements

For Users (Patients/Doctors/Admins):

- Modern web browser (Chrome, Firefox, Safari, Edge)
- Internet connection
- Screen resolution: 1024x768 or higher
- JavaScript enabled

Supported Browsers:

- Google Chrome (version 90+)
- Mozilla Firefox (version 88+)
- Safari (version 14+)
- Microsoft Edge (version 90+)

1.3 Security & Privacy

StrokeCare Portal implements industry-standard security measures:

- ✅ Encrypted password storage (bcrypt hashing)
- ✅ Secure JWT token authentication
- ✅ Role-based access control
- ✅ Comprehensive security logging
- ✅ Input validation and sanitization
- ✅ Secure session management

Privacy Notice: All patient data is handled in compliance with healthcare data protection standards.

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2. Getting Started

2.1 Accessing the System

1. Open your web browser
2. Navigate to: `http://localhost:5173` (or your deployment URL)
3. You will see the login page

2.2 First Time Users (Patients)

If you're a new patient:

1. Click "**Register as Patient**" button on the login page
2. Complete the registration form (see Section 4.2)
3. After successful registration, you'll be logged in automatically
4. Complete your health profile

2.3 Existing Users

If you already have an account:

1. Enter your **username**
2. Enter your **password**
3. Click "**Sign In**"
4. You'll be redirected to your dashboard based on your role

2.4 Forgot Password

If you forgot your password:

1. Click "**Forgot Password?**" link on login page
2. Enter your registered email address
3. Click "**Send Reset Link**"
4. Check your email for password reset instructions
5. Follow the link and create a new password

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3. User Roles

3.1 Patient Role

Access Level: Limited (Own data only)

Capabilities:

- View personal health dashboard
- Manage personal profile
- Book appointments with doctors
- View medical history
- Download health reports (PDF)
- Update contact information

Cannot:

- View other patients' data
- Access administrative functions
- Modify risk calculations

3.2 Doctor Role

Access Level: Medium (Assigned patients)

Capabilities:

- View assigned patients list
- Access patient medical records
- Update patient health information
- View risk assessments
- Manage appointments
- Generate patient reports
- View analytics dashboard

Cannot:

- Delete patient records
- Access administrative functions
- View security logs
- Manage user accounts

3.3 Administrator Role

Access Level: Full (All system functions)

Capabilities:

- All doctor capabilities
- User management (create/deactivate users)
- System statistics monitoring
- Security log access
- Patient deletion (if required)
- System configuration
- View all appointments

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4. Patient Guide

4.1 Patient Dashboard Overview

After logging in, you’ll see your personal dashboard with:

Health Summary Card:

- Current stroke risk level (Low/Medium/High)
- Risk percentage
- Color-coded indicator (Green/Yellow/Red)

Quick Stats:

- Total appointments booked
- Upcoming appointments
- Last health update date

Recent Appointments:

- List of your scheduled appointments
- Status indicators (Scheduled/Completed/Cancelled)

Action Buttons:

- Book New Appointment
- Update Profile
- Download Health Report

4.2 Patient Registration (New Users)

Step 1: Personal Information

1. **Username** (required)
   - 3-30 characters
   - Letters, numbers, underscores only
   - Must be unique
   - Example: `john_smith123`
2. **Email Address** (required)
   - Valid email format
   - Will be used for password reset
   - Example: `john.smith@email.com`
3. **Password** (required)
   - Minimum 8 characters
   - Must include uppercase, lowercase, number
   - Example: `SecurePass123`
4. **First Name** (required)
   - Your given name
   - Example: `John`
5. **Last Name** (required)
   - Your family name
   - Example: `Smith`
6. **Phone Number** (optional)
   - Include country code
   - Example: `+1 555-0123`

Step 2: Health Information

1. **Gender** (required)
   - Select: Male / Female / Other
2. **Age** (required)
   - Your current age in years
   - Must be 18-120
3. **Hypertension** (required)
   - Select: Yes / No
   - High blood pressure diagnosis
4. **Heart Disease** (required)
   - Select: Yes / No
   - Any heart condition diagnosis
5. **Ever Married** (required)
   - Select: Yes / No
   - Marital status
6. **Work Type** (required)
   - Select from: Private, Self-employed, Government, Children, Never worked
7. **Residence Type** (required)
   - Select: Urban / Rural
8. **Average Glucose Level** (required)
   - Enter in mg/dL
   - Normal range: 70-140 mg/dL
   - Example: `95.5`
9. **BMI (Body Mass Index)** (required)
   - Enter your BMI value
   - Normal range: 18.5-24.9
   - Example: `22.5`
   - *Calculate: weight(kg) / height(m)*^{2}
10. **Smoking Status** (required)
    - Select from: Never smoked, Formerly smoked, Currently smokes

Step 3: Terms & Privacy

1. Read the Privacy Policy
2. Check "I agree to the Privacy Policy and Terms of Service"
3. Click **"Register"**

After Registration:

- You'll be automatically logged in
- Redirected to your patient dashboard
- Can immediately book appointments

4.3 Booking an Appointment

Step 1: Navigate to Appointments

1. Click **"Book Appointment"** button on dashboard
2. Or use the navigation menu: Appointments → New Appointment

Step 2: Select Doctor

1. Choose a doctor from dropdown menu
2. View doctor's specialization
3. Example: "Dr. John Smith - Neurology"

Step 3: Choose Date & Time

1. **Appointment Date:**
    - Click on date field
    - Select future date (cannot be in the past)
    - Format: MM/DD/YYYY
2. **Appointment Time:**
    - Select from available time slots
    - Format: HH:MM AM/PM
    - Example: `10:30 AM`

Step 4: Provide Details

1. **Reason for Visit** (required)

    - Brief description of your concern
    - Example: "Follow-up consultation for blood pressure"
    - Maximum 500 characters

2. **Urgency Level** (required)

    - Select: Low / Medium / High
    - **Low:** Routine checkup
    - **Medium:** Concern requiring attention
    - **High:** Urgent medical issue

Step 5: Confirm Booking

1. Review all information
2. Click **"Book Appointment"**
3. You'll see a confirmation message
4. Appointment appears in your dashboard

4.4 Managing Appointments

View Appointments:

1. Go to "My Appointments" section
2. See list of all your appointments
3. Status indicators:
    - 🟢 **Scheduled** - Confirmed appointment
    - 🔵 **Completed** - Past appointment
    - 🔴 **Cancelled** - Cancelled appointment

Cancel an Appointment:

1. Find the appointment in your list
2. Click **"Cancel"** button
3. Confirm cancellation in popup
4. Status changes to "Cancelled"

Reschedule an Appointment:

1. Cancel the existing appointment
2. Book a new appointment with desired date/time

4.5 Viewing Health Information

Access Your Health Profile:

1. Click on your name/profile icon
2. Select "**My Profile**" or "**Health Information**"

What You'll See:

- Personal details (name, age, gender)
- Contact information
- Current health metrics:
    - Blood pressure status
    - Heart disease status
    - Glucose level
    - BMI
    - Smoking status
- **Stroke Risk Assessment:**
    - Risk percentage (0-100%)
    - Risk level (Low/Medium/High)
    - Color-coded indicator
    - Last calculated date

Understanding Risk Levels:

- 🟢 **Low Risk (0-24%):** Continue healthy lifestyle
- 🟡 **Medium Risk (25-49%):** Monitor health, consult doctor
- 🔴 **High Risk (50-100%):** Immediate medical attention needed

4.6 Updating Your Profile

Edit Personal Information:

1. Go to your profile page
2. Click "**Edit Profile**" button
3. Update allowed fields:
    - Phone number
    - Email address
    - Contact preferences

Update Health Metrics:

1. Navigate to “**Update Health Info**”
2. Enter new values for:
    - Glucose level
    - BMI
    - Smoking status
3. Click “**Save Changes**”
4. Risk assessment automatically recalculates

Note: Some fields (username, age, gender) cannot be changed after registration. Contact admin if correction needed.

4.7 Downloading Health Report

Generate PDF Report:

1. From your dashboard, click “**Download Health Report**”
2. PDF generates automatically
3. Contains:
    - Personal information
    - Current health metrics
    - Risk assessment details
    - Recent appointments
    - Medical history summary
4. Save or print the PDF

When to Use:

- Sharing information with other doctors
- Personal health records
- Insurance purposes
- Travel requirements

4.8 Patient Best Practices

✅ **Do’s:**

- Keep your health information up-to-date
- Book appointments in advance
- Attend scheduled appointments
- Review your risk assessment regularly
- Update contact information if changed
- Download reports before appointments

❌ **Don’ts:**

- Share your password with others
- Leave your account logged in on shared devices
- Ignore high-risk warnings
- Miss appointments without cancelling
- Enter false health information

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5. Doctor Guide

5.1 Doctor Dashboard Overview

Your doctor dashboard provides comprehensive patient management tools:

Statistics Panel:

- Total assigned patients
- Patients by risk level (High/Medium/Low)
- Upcoming appointments count
- Recent activity summary

Patients List:

- Searchable patient table
- Risk level indicators
- Quick action buttons
- Pagination (10 patients per page)

Filters & Search:

- Filter by risk level
- Search by name or ID
- Sort by various columns

5.2 Viewing Patient List

Access Patient List:

1. Main dashboard shows all assigned patients
2. Or navigate: Patients → All Patients

Patient Table Columns:

- Patient ID
- Full Name
- Age
- Gender
- Risk Level (with color coding)
- Last Update Date
- Actions

Understanding Risk Indicators:

- 🔴 **High Risk** - Red badge, immediate attention
- 🟡 **Medium Risk** - Yellow badge, monitoring required
- 🟢 **Low Risk** - Green badge, routine care

Sorting Patients:

1. Click column headers to sort
2. Available sorts:
   - Name (A-Z)
   - Age (youngest/oldest)
   - Risk Level (high to low)
   - Last Update (recent first)

Searching Patients:

1. Use search bar at top of table
2. Search by:
   - Patient name
   - Patient ID
   - Age
3. Results filter in real-time

5.3 Viewing Patient Details

Access Patient Record:

1. Find patient in list
2. Click **"View"** button or patient name
3. Full patient profile opens

Patient Detail Sections:

A. Personal Information

- Full name
- Date of birth / Age
- Gender
- Contact information (email, phone)
- Address (if provided)
- Marital status

B. Medical Information

- Hypertension status
- Heart disease status
- Work type
- Residence type
- Smoking status

C. Current Health Metrics

- Average glucose level (mg/dL)
- BMI (Body Mass Index)
- Last recorded date

D. Stroke Risk Assessment

- Current risk percentage
- Risk level classification
- Risk calculation date
- Historical risk trend (if available)

E. Medical History

- Previous diagnoses
- Treatment history
- Medications
- Allergies
- Past procedures

F. Appointment History

- Past appointments
- Upcoming appointments
- Cancelled appointments
- Appointment notes

5.4 Updating Patient Information

Edit Patient Record:

1. Open patient detail page
2. Click "**Edit**" button
3. Update form opens

Editable Fields:

- Contact information
- Health metrics (glucose, BMI)
- Medical conditions (hypertension, heart disease)
- Smoking status
- Medical history notes

Update Process:

1. Modify necessary fields
2. Ensure all required fields are filled
3. Validate data (warnings for unusual values)
4. Click "**Save Changes**"
5. Confirmation message appears
6. Risk score automatically recalculates

Important Notes:

- Cannot change: Patient ID, username, registration date
- Age updates automatically based on date of birth
- Risk assessment updates immediately after save
- All changes are logged in security system

5.5 Managing Appointments

View All Appointments:

1. Navigate: Appointments → All Appointments
2. See appointments for all your patients

Appointment Filters:

- By date range
- By patient name
- By status (scheduled/completed/cancelled)
- By urgency level

Appointment Actions:

A. View Appointment Details:

- Click on appointment
- See patient info, reason, urgency
- View appointment history

B. Mark as Completed:

1. Find scheduled appointment
2. Click "**Mark Complete**"
3. Add optional notes
4. Appointment moves to completed status

C. Cancel Appointment:

1. Find appointment
2. Click "**Cancel**"
3. Provide cancellation reason
4. Confirm cancellation
5. Patient receives notification (if enabled)

D. Add Appointment Notes:

1. Open completed appointment
2. Click "**Add Notes**"
3. Enter consultation summary
4. Save notes
5. Notes visible in patient history

5.6 Analytics & Reports

Access Analytics:

1. Navigate: Dashboard → Analytics
2. View various statistics

Available Analytics:

A. Patient Risk Distribution

- Pie chart of patients by risk level
- Total counts per category
- Percentage breakdown

B. Age Demographics

- Age group distribution
- Average patient age
- Age range of high-risk patients

C. Health Condition Prevalence

- Percentage with hypertension
- Percentage with heart disease
- Smoking status breakdown
- BMI distribution

D. Appointment Statistics

- Total appointments
- Completion rate
- Cancellation rate
- Average appointments per patient

E. Trends Over Time

- Risk level changes
- New patient registrations
- Appointment volume trends

Export Reports:

1. Click "**Export**" button
2. Choose format (PDF/CSV)
3. Select date range
4. Download report

5.7 Doctor Best Practices

✅ **Recommended Actions:**

- Review high-risk patients daily
- Keep patient records updated
- Document appointment outcomes
- Respond to urgent appointments promptly
- Regular data validation
- Monitor risk trends

⚠️ **Important Reminders:**

- Verify patient identity before viewing records
- Log out when leaving workstation
- Never share login credentials
- Report system issues immediately
- Maintain patient confidentiality

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6. Administrator Guide

6.1 Admin Dashboard Overview

Administrator dashboard provides complete system oversight:

System Statistics:

- Total users (patients, doctors, admins)
- Active vs inactive accounts
- Total appointments
- System health indicators

User Management Panel:

- Create new users
- Activate/deactivate accounts
- View user activity

Security Monitoring:

- Recent login attempts
- Failed authentication logs
- Security event timeline
- Suspicious activity alerts

Quick Actions:

- Add new doctor
- Add new admin
- View all patients
- System reports

6.2 User Management

View All Users:

1. Navigate: Admin → Users → All Users
2. Table shows all system users

User Table Columns:

- User ID
- Username
- Full Name
- Email
- Role (Patient/Doctor/Admin)
- Status (Active/Inactive)
- Last Login
- Created Date
- Actions

Filter Users:

- By role
- By status
- By registration date
- Search by name/username/email

6.3 Creating New Users

Create New Doctor:

1. Navigate: Admin → Users → Add Doctor
2. Fill required fields:
    - Username (unique)
    - Email address
    - Password (temporary)
    - First name
    - Last name
    - **Specialization** (e.g., "Neurology", "Cardiology")
    - **License Number** (medical license)
    - Phone number
    - Status (Active/Inactive)
3. Click **"Create Doctor Account"**
4. Doctor receives credentials (if email enabled)
5. Doctor can change password on first login

Create New Administrator:

1. Navigate: Admin → Users → Add Admin
2. Fill required fields:
    - Username (unique)
    - Email address
    - Password (temporary)
    - First name
    - Last name
    - Phone number
    - Status (Active)
3. Click "**Create Admin Account**"
4. New admin credentials sent

Important:

- Use strong temporary passwords
- Mark account as "Active" for immediate access
- Verify email before creating account
- Document admin account creation

6.4 Managing Existing Users

Deactivate User Account:

1. Find user in list
2. Click "**Deactivate**" button
3. Confirm action
4. User cannot log in (data retained)

Reactivate User Account:

1. Find deactivated user
2. Click "**Activate**" button
3. User can log in again

Delete User Account:

1. Find user in list
2. Click “**Delete**” button
3. **Warning:** This permanently deletes:
    - User account
    - Associated patient records (if patient)
    - Appointment history
4. Confirm with password
5. Data cannot be recovered

Reset User Password:

1. Find user in list
2. Click **“Reset Password”**
3. Generate temporary password
4. Send to user’s email
5. User must change on next login

Edit User Details:

1. Click **“Edit”** next to user
2. Update allowed fields:
    - Email
    - Phone number
    - Name (if correction needed)
    - Role (carefully!)
    - Specialization (doctors)
3. Save changes

6.5 Security Monitoring

Access Security Logs:

1. Navigate: Admin → Security → Logs
2. View comprehensive security events

Security Event Types:

A. Authentication Events

- Successful logins
- Failed login attempts
- Password changes
- Password reset requests
- Account lockouts

B. Data Access Events

- Patient record views
- Patient record updates
- User account changes
- Appointment access

C. User Management Events

- User creation
- User deletion
- Role changes
- Account activation/deactivation

D. System Events

- System errors
- Database issues
- Configuration changes

Log Details:

- Timestamp (exact time)
- Event type
- Username
- IP address
- Action performed
- Result (success/failure)
- Additional details

Filter Logs:

- By date range
- By event type
- By username
- By IP address
- By result (success/failure only)

Suspicious Activity Indicators:

- 🔴 **Multiple failed logins** (5+ in 10 minutes)
- 🔴 **Login from new location**
- 🔴 **Unusual access patterns**
- 🔴 **Mass data access**
- 🔴 **After-hours activity**

Respond to Security Events:

1. Investigate suspicious activity
2. Contact user if necessary
3. Deactivate compromised accounts
4. Force password reset
5. Document incident

6.6 System Reports & Analytics

Generate System Report:

1. Navigate: Admin → Reports
2. Select report type
3. Choose date range
4. Click "**Generate**"

Available Reports:

A. User Activity Report

- Login frequency
- Last login dates
- Active vs inactive users
- User role distribution

B. Patient Statistics

- Total patients
- Risk level distribution
- Demographics breakdown
- New registrations

C. Appointment Report

- Total appointments
- By status (scheduled/completed/cancelled)
- By doctor
- By time period
- Cancellation reasons

D. Security Audit Report

- All security events
- Failed authentication attempts
- Data access summary
- System changes

E. System Health Report

- Database performance
- User load
- Error logs
- System uptime

Export Options:

- PDF (formatted report)
- CSV (data export)
- Excel (with charts)
- JSON (raw data)

6.7 System Configuration

Access Settings:

1. Navigate: Admin → System → Settings

Configurable Options:

A. Security Settings

- Password requirements (length, complexity)
- Session timeout duration
- Failed login threshold
- Account lockout duration
- Two-factor authentication (if enabled)

B. Email Settings

- SMTP configuration
- Email templates
- Notification preferences
- Automatic emails (appointments, password resets)

C. Database Settings

- Switch between SQLite and MongoDB
- Database backup schedule
- Data retention policies

D. System Preferences

- Date format
- Time zone
- Default language
- Pagination size

E. Risk Calculation Settings

- Risk threshold values
- Calculation algorithm parameters

6.8 Administrator Best Practices

✅ **Security Best Practices:**

- Review security logs daily
- Monitor failed login attempts
- Regularly audit user accounts
- Remove inactive accounts
- Use strong admin passwords
- Enable two-factor authentication
- Limit admin account creation
- Document all administrative actions

✅ **User Management:**

- Verify identity before account creation
- Use role of least privilege
- Regular access reviews
- Prompt deactivation of departed staff
- Maintain user directory documentation

✅ **System Maintenance:**

- Regular database backups
- Monitor system performance
- Review error logs weekly
- Update documentation
- Test disaster recovery procedures

⚠️ **Critical Warnings:**

- Never share admin credentials
- Don't delete users without backup
- Verify before making role changes
- Document major configuration changes
- Test changes in non-production first (if available)

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7. Common Features

7.1 Navigation Menu

Menu Structure:

Patient View:

- Dashboard (home icon)
- My Profile
- Book Appointment
- My Appointments
- Health Information
- Logout

Doctor View:

- Dashboard
- Patients
- Appointments
- Analytics
- My Profile
- Logout

Admin View:

- Dashboard
- Users
- Patients
- Appointments
- Security Logs
- Reports
- System Settings
- Logout

Using Navigation:

1. Click menu icon (hamburger) on mobile
2. Desktop: Menu always visible on left
3. Click any menu item to navigate
4. Active page highlighted

7.2 Profile Management

Access Your Profile:

1. Click profile icon (top right)
2. Select "**My Profile**"

Profile Sections:

Personal Information:

- Name
- Username
- Email address
- Phone number
- Role

Account Settings:

- Change password
- Update email
- Notification preferences

Change Password:

1. Click "**Change Password**"
2. Enter current password
3. Enter new password
4. Confirm new password
5. Password requirements:
    - Minimum 8 characters
    - At least one uppercase letter
    - At least one lowercase letter
    - At least one number
    - At least one special character (recommended)
6. Click "**Update Password**"
7. Log out and log back in with new password

Update Email:

1. Click "**Edit Profile**"
2. Enter new email address
3. Verify email format
4. Click "**Save**"
5. Verification email sent (if enabled)
6. Confirm new email

7.3 Dark Mode / Light Mode

Toggle Theme:

1. Look for sun/moon icon (top right)
2. Click to switch between:
    - 🌙 **Dark Mode** - Dark background, light text
    - 🌞 **Light Mode** - Light background, dark text
3. Preference saved automatically
4. Applies across all pages

Benefits:

- **Dark Mode:** Reduces eye strain, better for night use
- **Light Mode:** Better readability in bright environments

7.4 Search Functionality

Available in:

- Patient lists (doctors/admins)
- Appointment lists
- User management (admins)

How to Search:

1. Locate search bar (usually top of table)
2. Type search term
3. Results filter in real-time
4. Clear search to show all results

Search Tips:

- Search is case-insensitive
- Partial matches work
- Search multiple fields simultaneously
- Use filters for better results

7.5 Pagination

Navigate Large Lists:

1. Data shown in pages (usually 10 items)
2. Pagination controls at bottom of table:
    - ⟨⟨ First page
    - ⟨ Previous page
    - Page numbers (1, 2, 3...)
    - ⟩ Next page
    - ⟩⟩ Last page
3. Current page highlighted
4. Shows: "Showing 1-10 of 45"

Change Items Per Page:

1. Select from dropdown
2. Options: 10, 25, 50, 100
3. Page reloads with new count

7.6 Notifications

Types of Notifications:

- ✅ Success (green) - Action completed
- ⚠️ Warning (yellow) - Attention needed
- ❌ Error (red) - Action failed
- ℹ️ Info (blue) - General information

Notification Behavior:

- Appears at top-right of screen
- Auto-dismisses after 5 seconds
- Click X to dismiss manually
- Multiple notifications stack

Common Notifications:

- “Login successful”
- “Profile updated”
- “Appointment booked”
- “Invalid input, please check”
- “Session expired, please login again”

7.7 Session Management

Session Duration:

- Standard session: 24 hours
- Session extends with activity
- Warning before expiration (if enabled)

Session Expiration:

1. After 24 hours of inactivity
2. You’ll see “Session expired” message
3. Redirected to login page
4. Log in again to continue

Stay Secure:

- Always logout when finished
- Don’t leave session open on shared computers
- Close browser on public computers
- Session ends when browser closes (recommended setting)

7.8 Responsive Design

Mobile Devices:

- Optimized for phones and tablets
- Touch-friendly buttons
- Simplified navigation
- Swipe gestures supported
- Forms adapted for mobile input

Screen Sizes:

- Desktop (1920x1080+): Full features
- Laptop (1366x768+): Full features
- Tablet (768x1024): Adapted layout
- Mobile (360x640+): Mobile-optimized

Mobile Tips:

- Use landscape mode for tables
- Tap menu icon for navigation
- Swipe to close modals
- Long-press for additional options

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8. Troubleshooting

8.1 Login Issues

Problem: “Invalid username or password”

Solutions:

1. Verify username spelling (case-sensitive)
2. Check if Caps Lock is on
3. Use “Forgot Password” if password forgotten
4. Ensure account is active (contact admin)
5. Clear browser cache and cookies
6. Try different browser

Problem: “Account is locked”

Cause: Too many failed login attempts (5+)

Solutions:

1. Wait 30 minutes for auto-unlock
2. Contact administrator for immediate unlock
3. Use “Forgot Password” to reset

Problem: Session expired immediately

Solutions:

1. Enable cookies in browser
2. Check if JavaScript is enabled
3. Update browser to latest version
4. Disable browser extensions temporarily
5. Try incognito/private mode

8.2 Appointment Booking Issues

Problem: “No doctors available in dropdown”

Solutions:

1. Refresh the page (F5)
2. Log out and log back in
3. Check if doctors are active (admin)
4. Contact administrator

Problem: “Cannot select past date”

Expected: System only allows future dates

Solution: Select today’s date or later

Problem: “Appointment time already taken”

Solutions:

1. Choose different time slot
2. Select different date
3. Choose different doctor
4. Contact clinic for assistance

Problem: Form won’t submit

Solutions:

1. Check all required fields (marked with *)
2. Ensure date is in future
3. Verify time slot is selected
4. Check internet connection
5. Look for red error messages under fields

8.3 Profile & Data Issues

Problem: Cannot update health information

Solutions:

1. Ensure all fields have valid values:
   - Age: 18-120
   - Glucose: 0-300 mg/dL
   - BMI: 10-60
2. Check for error messages
3. Try refreshing page
4. Log out and back in

Problem: Risk level not updating

Solutions:

1. Save all health data changes
2. Refresh page after saving
3. Log out and back in
4. Contact doctor or admin

Problem: PDF download not working

Solutions:

1. Check if pop-ups are blocked
2. Allow pop-ups for this site
3. Try different browser
4. Check download folder
5. Ensure sufficient storage space

8.4 Display & Interface Issues

Problem: Page layout looks broken

Solutions:

1. Clear browser cache:
   - Chrome: Ctrl+Shift+Delete
   - Firefox: Ctrl+Shift+Delete
   - Safari: Cmd+Option+E
2. Hard refresh: Ctrl+F5 (Cmd+Shift+R on Mac)
3. Update browser to latest version
4. Try different browser
5. Check screen resolution (minimum 1024x768)

Problem: Dark mode not working

Solutions:

1. Click theme toggle multiple times
2. Clear browser local storage
3. Check browser JavaScript console for errors
4. Try different browser

Problem: Menu not appearing (mobile)

Solutions:

1. Tap hamburger menu icon (≡)
2. Rotate device to landscape
3. Refresh page
4. Clear browser cache

8.5 Performance Issues

Problem: Pages loading slowly

Solutions:

1. Check internet connection speed
2. Close other browser tabs
3. Clear browser cache
4. Disable browser extensions
5. Check if server is overloaded (contact admin)

Problem: Actions taking long time

Solutions:

1. Wait for current action to complete
2. Don’t click buttons multiple times
3. Check network connection
4. Refresh page if stuck over 30 seconds

Problem: Charts/graphs not displaying

Solutions:

1. Enable JavaScript
2. Update browser
3. Clear cache
4. Check console for errors (F12)

8.6 Error Messages

“Network Error” or “Cannot connect”

Causes:

- Internet connection lost
- Server is down
- Firewall blocking connection

Solutions:

1. Check internet connection
2. Try accessing other websites
3. Restart router
4. Contact IT support
5. Try again in few minutes

“Permission Denied”

Causes:

- Trying to access unauthorized page
- Role doesn’t have required permissions
- Session expired

Solutions:

1. Log out and log back in
2. Contact administrator for access
3. Verify you’re using correct account type

“Invalid Data” or “Validation Error”

Causes:

- Required fields empty
- Data in wrong format
- Values out of valid range

Solutions:

1. Check error messages under each field
2. Ensure all required fields filled
3. Verify data formats (email, phone, dates)
4. Check value ranges (age, glucose, BMI)

“Database Error”

Causes:

- Server issue
- Database connection problem
- Data corruption

Solutions:

1. Refresh page
2. Try again in few minutes
3. Contact administrator immediately
4. Don’t attempt action repeatedly

8.7 Browser-Specific Issues

Internet Explorer: ⚠️ **Not Supported** - Please use modern browser

Chrome:

- Clear cache: chrome://settings/clearBrowserData
- Disable extensions: chrome://extensions
- Reset settings: chrome://settings/reset

Firefox:

- Clear cache: about:preferences#privacy
- Safe mode: Help → Restart with Add-ons Disabled

Safari:

- Clear cache: Preferences → Privacy → Manage Website Data
- Disable extensions: Preferences → Extensions

Edge:

- Clear cache: edge://settings/clearBrowserData
- Reset: edge://settings/reset

8.8 When to Contact Support

Contact Administrator if:

- Cannot login after multiple attempts
- Account needs to be unlocked
- Need role/permission changes
- Data appears incorrect
- Suspect security issue
- System error persists

Contact Doctor if (Patients):

- Questions about health data
- Risk level concerns
- Appointment conflicts
- Medical information corrections

Provide When Reporting Issue:

1. Your username (not password!)
2. Page where error occurred
3. What you were trying to do
4. Exact error message
5. Browser and version
6. Screenshot (if possible)
7. Time/date of issue

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9. FAQ (Frequently Asked Questions)

9.1 General Questions

Q: Is my data secure?

A: Yes. StrokeCare Portal implements multiple security measures:

- Encrypted password storage (bcrypt hashing)
- Secure JWT token authentication
- Role-based access control
- Security logging of all actions
- Input validation and sanitization
- Secure database storage

Q: Can I access the system from my phone?

A: Yes. The system is fully responsive and works on:

- Smartphones (iPhone, Android)
- Tablets (iPad, Android tablets)
- Desktop computers
- Laptops

Q: How long does my session last?

A: Your session remains active for 24 hours or until you logout. Session extends automatically as you use the system.

Q: Can I have multiple accounts?

A: No. Each user should have only one account. Multiple accounts may result in account suspension.

Q: What browsers are supported?

A: Modern browsers including:

- Google Chrome (version 90+)
- Mozilla Firefox (version 88+)
- Safari (version 14+)
- Microsoft Edge (version 90+)

Internet Explorer is not supported.

9.2 Patient Questions

Q: How accurate is the stroke risk assessment?

A: The risk assessment uses clinically validated algorithms based on multiple health factors. However, it's a screening tool, not a diagnosis. Always consult healthcare professionals for medical advice.

Q: Can I change my age after registration?

A: No. Age cannot be changed after registration. Contact administrator if there's an error.

Q: How often should I update my health information?

A: Update your health metrics (glucose, BMI, etc.) whenever they change significantly, or at least:

- Every 3 months for low-risk patients
- Monthly for medium-risk patients
- Weekly or as directed for high-risk patients

Q: Can I book multiple appointments at once?

A: No. Book one appointment at a time. You can book another after the first is confirmed.

Q: How do I cancel an appointment?

A: Go to "My Appointments," find the appointment, and click "Cancel." It's recommended to cancel at least 24 hours in advance.

Q: What does my risk level mean?

A:

- **Low (0-24%):** Continue healthy lifestyle, routine checkups
- **Medium (25-49%):** Monitor health closely, regular doctor visits
- **High (50-100%):** Seek immediate medical consultation

Q: Can I see other patients' information?

A: No. You can only view your own health information. This protects everyone's privacy.

Q: My risk level seems wrong. What should I do?

A: First, verify all your health information is accurate. If still concerned, contact your doctor for a review.

9.3 Doctor Questions

Q: How many patients can I have?

A: No fixed limit. You can manage as many patients as assigned by administration.

Q: Can I delete patient records?

A: No. Only administrators can delete patient records. Doctors can update information but not delete.

Q: How do I see only high-risk patients?

A: Use the risk level filter on the patients page. Select "High Risk" from the dropdown.

Q: Can I assign patients to other doctors?

A: No. Patient assignment is managed by administrators.

Q: What if patient data seems incorrect?

A: You can update patient health information. If core data (name, age) is wrong, contact administrator.

Q: Can I export patient data?

A: Yes. Use the "Export" function to download patient data in CSV or PDF format.

Q: How are patients assigned to me?

A: Patients can be:

- Self-registered (distributed automatically)
- Assigned by administrators
- Transferred from other doctors

9.4 Administrator Questions

Q: Can deleted users be recovered?

A: No. User deletion is permanent and cannot be undone. Always backup before deleting.

Q: How often should I review security logs?

A: Daily review recommended, especially:

- Failed login attempts
- Unusual access patterns
- After-hours activity

Q: Can I change user roles?

A: Yes, but carefully. Changing roles affects permissions and access. Document all role changes.

Q: How do I backup the database?

A: Database backups are automatic (if configured). Manual backup options available in System Settings.

Q: What should I do about failed login attempts?

A:

- 1-2 attempts: Normal (user error)
- 3-5 attempts: Monitor
- 5+ attempts: Investigate, possibly lock account
- Multiple accounts: Possible attack, investigate source IP

Q: Can I bulk import users?

A: Not through UI. Contact system administrator for bulk import scripts.

Q: How do I generate system reports?

A: Navigate to Admin → Reports, select report type, choose date range, and click "Generate."

9.5 Technical Questions

Q: What is JWT authentication?

A: JSON Web Token (JWT) is a secure method of authentication where a token is issued upon login and verified for each request. It's more secure than traditional session cookies.

Q: Why are there two databases (SQLite and MongoDB)?

A: Different databases serve different purposes:

- **SQLite:** Structured data (users, appointments) requiring ACID transactions
- **MongoDB:** Flexible patient records that may evolve over time

Q: What happens if I lose internet connection?

A: Current page data remains visible, but you cannot:

- Save changes
- Navigate to new pages
- Load new data

Reconnect to continue using the system.

Q: Is two-factor authentication available?

A: Currently not implemented. May be added in future versions.

Q: Can I use the system offline?

A: No. StrokeCare Portal requires internet connection to function.

Q: What encryption is used for passwords?

A: Passwords are hashed using bcrypt with cost factor 12, making them extremely secure.

Q: How is HIPAA compliance ensured?

A: System implements:

- Encrypted data storage
- Access control and authentication
- Security logging and audit trails
- Role-based permissions
- Secure data transmission (HTTPS recommended)

Q: Can I integrate with other healthcare systems?

A: Not currently supported. Contact development team for custom integrations.

---

10. Support

10.1 Getting Help

Available Support Channels:

1. In-App Help:

- Click “Help” icon (❓) on any page
- Context-sensitive help available
- Tooltips on hover

2. Administrator Contact:

- For account issues
- For access problems
- For system errors
- Response time: Same day (business hours)

3. Technical Support:

- Email: support@strokecare.example.com
- Response time: 24-48 hours

4. Documentation:

- This user manual
- API reference (developers)
- Architecture documentation

10.2 Reporting Issues

Before Reporting:

1. Check this manual’s Troubleshooting section
2. Try basic fixes (clear cache, different browser)
3. Note exact error message
4. Try to reproduce the issue

What to Include in Report:

Required Information:

- Your username (never include password!)
- Your role (Patient/Doctor/Admin)
- Date and time of issue
- Page/feature where issue occurred
- What you were trying to do
- Exact error message

Helpful Information:

- Browser name and version
- Operating system
- Screenshot of error
- Steps to reproduce
- Whether issue is consistent or intermittent

Example Report:

```
Username: john_smith
Role: Patient
Date/Time: December 5, 2025, 2:30 PM
Issue: Cannot book appointment
Page: Appointments → New Appointment
Error: "No doctors available in dropdown"
Browser: Chrome 120.0
OS: Windows 11
Screenshot: Attached
Steps: 1) Logged in, 2) Clicked "Book Appointment",
       3) Doctor dropdown is empty
Tried: Refreshing page, logging out/in
```

10.3 Feature Requests

Have an idea to improve StrokeCare Portal?

Submit Feature Request:

1. Describe the feature clearly
2. Explain the benefit
3. Provide use case examples
4. Indicate priority (nice-to-have vs critical)

Feature Request Process:

1. Submitted to development team
2. Reviewed for feasibility
3. Prioritized in roadmap
4. Development scheduled
5. Requestor notified of implementation

10.4 Training Resources

Available Training:

1. Video Tutorials:

- Patient registration walkthrough
- Booking appointments
- Doctor dashboard overview
- Admin user management
- Security monitoring

2. Quick Start Guides:

- Patient quick start (2 pages)
- Doctor quick start (3 pages)
- Admin quick start (5 pages)

3. Webinars:

- Monthly webinars for new users
- Advanced feature training
- Q&A sessions

4. Practice Environment:

- Sandbox system for testing
- Sample data included
- No impact on production data
- Request access from administrator

10.5 System Maintenance

Scheduled Maintenance:

- Typically: Sundays, 2:00 AM - 6:00 AM
- Notification sent 48 hours in advance
- System unavailable during maintenance
- All data preserved

During Maintenance:

- Login disabled
- Maintenance message displayed
- No data loss
- System restored after completion

Emergency Maintenance:

- Performed for critical issues
- May occur with short notice
- Duration: Usually < 2 hours

10.6 Staying Updated

Release Notes:

- Available in Help → What's New
- Lists new features
- Documents bug fixes
- Includes upgrade instructions

Notification of Updates:

- Email to all users (if enabled)
- In-app notification banner
- Dashboard announcement

Version Information:

- Current version: 1.0.0
- View: Help → About
- Shows: Version, build date, changelog

10.7 Privacy & Data Rights

Your Rights:

- Access your personal data
- Request data correction
- Request data deletion (right to be forgotten)
- Export your data (data portability)
- Opt-out of communications

Data Retention:

- Active accounts: Indefinite
- Inactive accounts: Reviewed annually
- Deleted accounts: 30-day recovery period, then permanent

To Exercise Rights:

1. Contact administrator
2. Submit written request
3. Verification required
4. Response within 30 days

10.8 Security Concerns

Report Security Issues:

- **Urgent:** Call administrator immediately
- **Email:** security@strokecare.example.com
- **Don't:** Post publicly or discuss with others

What to Report:

- Suspected account compromise
- Unusual system behavior
- Potential vulnerabilities
- Phishing attempts
- Data breaches

After Reporting:

1. Don't attempt further access
2. Change password immediately
3. Log out from all devices
4. Wait for administrator guidance

Appendix A: Glossary

Administrator: User with full system access, responsible for user management and system configuration.

Appointment: Scheduled meeting between patient and doctor.

Authentication: Process of verifying user identity (login).

Authorization: Process of determining what authenticated user can access.

BMI (Body Mass Index): Measure of body fat based on height and weight. Formula: weight(kg) / height(m)^2.

Dashboard: Main page showing overview and quick access to features.

Doctor: Medical professional user who can view and manage patient records.

Glucose Level: Amount of sugar in blood, measured in mg/dL. Normal fasting: 70-100 mg/dL.

High Risk: Stroke risk level of 50% or higher, requires immediate medical attention.

Hypertension: High blood pressure condition, significant stroke risk factor.

JWT (JSON Web Token): Secure method of authentication using cryptographically signed tokens.

Low Risk: Stroke risk level below 25%, indicating good health status.

Medium Risk: Stroke risk level between 25-49%, requires monitoring.

Patient: Person receiving medical care, registered in the system.

Risk Assessment: Calculation of stroke probability based on health factors.

Role: User type determining access permissions (Patient, Doctor, Admin).

Security Log: Record of system events for auditing and security monitoring.

Session: Period during which user remains logged in.

Stroke: Medical emergency caused by interrupted blood flow to brain.

Appendix B: Keyboard Shortcuts

General Navigation:

- `Alt + H` - Go to Home/Dashboard
- `Alt + P` - Go to Profile
- `Alt + L` - Logout
- `Esc` - Close modal/dialog
- `Tab` - Navigate between form fields
- `Enter` - Submit form (when in input)

Table Navigation:

- `→` - Next page
- `←` - Previous page
- `Home` - First page
- `End` - Last page

Search:

- `Ctrl + F` - Focus search box (if available)
- `Esc` - Clear search

Accessibility:

- `Tab` - Navigate forward
- `Shift + Tab` - Navigate backward
- `Enter` / `Space` - Activate button
- `Arrow Keys` - Navigate dropdowns

Appendix C: Contact Information

Technical Support:

- Email: support@strokecare.example.com
- Response Time: 24-48 hours

Administrator:

- Contact through system messaging
- Or institutional contact method

Emergency (Security Issues):

- Email: security@strokecare.example.com
- Phone: Available through your institution

GitHub Repository:

- CS-LTU/com7033-assignment-rafiuzzaman97

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