

# Improving EHR User Experience After Go-Live

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# EHR Diagrammed vs. Deployed



**Computer** in patient room behind couch



**Monitor & Keyboard** installed inside cupboard in patient room (before relocated elsewhere)

# Indication of Anatomic Sites Multiple Times

11 Separate Steps to Complete

The screenshot displays a medical assessment software interface. At the top, a header indicates '01 Shift Assessment FS, from 04/08/2012 to 04/09/2012'. The main interface is divided into several sections, including 'Coping Interventions', 'Neuro/Cognitive/Perceptual', and 'Cardiovascular'. A large red box with the number '1' is overlaid on the 'Coping Interventions' section. Two overlapping windows are open: 'Sensory Impairment' and 'Motor Response'. The 'Sensory Impairment' window has a 'Filter To:' field and a list of symptoms: 'No sensory impairment', 'Unable to assess', 'Sensory Symptoms' (with sub-options: 'Burning', 'Tingling', 'Tinnitus', 'Numbness'), and 'left foot'. A blue callout bubble points to the 'Numbness' option with the text 'Lower extremity sensory impairment'. The 'Motor Response' window has a 'Filter To:' field and a list of options: 'Moves all extremities on command', 'left extremity', 'Right extremity', 'Bilateral', 'Upper', 'Lower', 'Abnormals' (with sub-options: 'Ataxia', 'Drift', 'Extension posturing (decebrate)', 'Facial droop', 'Flaccid', 'Flexion posturing (decubitus)', 'Hemiparesis', 'Hypertonic', 'Hypotonic', 'Involuntary', 'No response', 'Pronation', 'Spasticity', 'Spontaneous Movement', 'Weakness', 'Withdraws'). A blue callout bubble points to the 'Weakness' option with the text 'More documentation of lower extremity, this time pertaining to motor response'. The 'Sensory Impairment' window has 'OK' and 'Cancel' buttons. The 'Motor Response' window has 'OK' and 'Cancel' buttons. The background interface shows a 'Plan of Care Reviewed with' section and a 'Coping Interventions' section with a 'Neuro/Cognitive/Perceptual' sub-section. The 'Cardiovascular' section is also visible.

# Indication of Anatomic Sites Multiple Times

11 Separate Steps to Complete

The screenshot displays a medical software interface for a patient assessment. The main window is titled "01 Shift Assessment FS, From 04/08/2012 to 04/09/2012". It features a sidebar on the left with "Coping Interventions" and a main table with columns for "Sensory Impairment", "Cardiovascular", and "Peripheral Neurovascular". A red box labeled "1" highlights the sidebar, and a red box labeled "2" highlights the main table. An "Assessment Findings" dialog box is open on the right, showing a list of checkboxes for "Left", "Right", "Upper", "Lower", "Bilateral", "Warm", "Cold", "Cool", "Hot", "Pink", "Black", "Blotchy", "Cyanotic", "Dusky", "Mottled", "Pallor", "Red", "Ruddy", "Erythema", "Numbness", "Tingling", "Normal Sensation", "Decreased sensation", "Loss of sensation", "Ulcerations", and "Weeping". A red box highlights the "Lower" checkbox, and a callout bubble points to it with the text "Assessment of lower extremity". Other red boxes highlight "Left", "Numbness", "Tingling", "Normal Sensation", "Decreased sensation", and "left lower warm left lower cool to touch".

# Indication of Anatomic Sites Multiple Times

11 Separate Steps to Complete

01 Shift Assessment FS, From 04/08/2012 to 04/09/2012

Motor Response

Filter To:

Moves all extremities on command

Left extremity

Right extremity

1

01 Shift Assessment FS, From 04/08/2012 to 04/09/2012

Assessment Findings

Filter To:

Left

Right

Upper

Lower

Bilateral

Assessment Findings

Warm

Cold

2

01 Shift Assessment FS, From 04/08/2012 to 04/09/2012

Assessment Findings

Filter To:

No tenderness, swelling or deformity in all extremities

No tenderness, swelling or deformity except

Left

Right

Bilateral

Upper

Lower

Ankle

Arm

Back

Elbow

Fingers

Foot

Hand

Hip

Knee

Leg

Neck

Shoulder

Toes

Wrist

Assessment Findings

Amputation

Deformity

Painful

Redness

Swelling

Tenderness

Assessment of lower extremity

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Assessment Findings

Extremity Movement

# Indication of Anatomic Sites Multiple Times

11 Separate Steps to Complete

01 Shift Assessment FS, From 04/08/2012 to 04/09/2012

Motor Response

Filter To:

Move: all extremities on command

Left extremity

Right extremity

1

01 Shift Assessment FS, From 04/08/2012 to 04/09/2012

Assessment Findings

Filter To:

Left

Right

Upper

Lower

Bilateral

Assessment Findings

Warm

Cold

2

01 Shift Assessment FS, From 04/08/2012 to 04/09/2012

Assessment Findings

Filter To:

No tenderness, swelling or deformity in all extremities

No tenderness, swelling or deformity except

Left

Right

Bilateral

Upper

3

01 Shift Assessment FS, From 04/08/2012 to 04/09/2012

Extremity Movement

Filter To:

MAE on command, no obvious deficits noted

MAE on command, no obvious deficits noted except

RUE

LUE

Bilateral UE

RLE

LLE

Bilateral LE

Bilateral UE and LE

Abnormals

Limited ROM

Spontaneous movement, not on command

Flaccid

Weakness

Quadriplegic

Paraplegic

Contractures

Foot drop

Lower extremity pertaining to movement

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# Multiple Code Status Orders Resulting from Orderset Design

**Order Summary**

**Order Date: 24-Sep-2013**

**Limited Code**

- Medications - Pressors: Do Not Provide
- Medications - Anti - Arrhythmics: Do Not Provide
- Defibrillation: Provide
- Chest Compression: Provide
- Intubation: Do Not Provide
- NIV (Non-Invasive Ventilation): Provide

**Do Not Attempt Resuscitation/Allow Natural Death (DNAR/AND)**

CODE STATUS	
Full Code	24-Sep-2013 Routine
Limited Code	24-Sep-2013 Routine
Medications - Pressors: Provide Medications - Anti - Arrhythmics: Do Not Provide Defibrillation: Do Not Provide Chest Compression: Do Not Provide Intubation: Do Not Provide NIV (Non-Invasive Ventilation): Provide	

Code Status		0/2
<input type="checkbox"/> Full Code	18-Nov-2013 Routine	Ordered 18-Nov-2013 17:26

**Code Status:** Full Code (Confirmed) 18-Nov-2013

Code Status		0/2
<input type="checkbox"/> Full Code	18-Nov-2013 Routine	Ordered 18-Nov-2013 17:09
<input type="checkbox"/> Do Not Attempt Resuscitation/Continue Other Treatment (DNAR/COT)	18-Nov-2013 Routine	Ordered 18-Nov-2013 17:09

**Code Status:** DNAR/AND 18-Nov-2013

# Socio-Technical Perspective of Usability

## EHR User Experience

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graph TD; A[EHR User Experience] --> B[Infrastructure]; A --> C[Policies]; B --> D[Optimization]; B --> E[On-going system integration]; C --> F[Training]; C --> G[Support];
```

### Infrastructure

(E.g.: response time, downtimes)

### Optimization

(E.g.: new “falls” modules)

### On-going system integration

(E.g.: barcoding)

### Policies

(E.g.: documentation requirements)

### Training

(E.g.: tricks to filter orders)

### Support

(E.g.: helpdesk, mice, keyboards)