

Getting Started with CareSelect™ Imaging with Cerner

# Contents

Introduction	3
Appropriateness Criteria Scoring	4
Guidance at the Point-of-Order	5
Accessing Appropriateness Criteria in the Order-Driven Workflow	5
Selecting an Appropriate Alternate Order	8
Continuing with the Original Order	8
Common Indications Functionality	10
Millennium Applications CDS	12
Clinical Decision Support with PowerPlans	14
PowerPlans without high-scoring reason for exam order sentences	15
Searching Using a Diagnosis	16

## Introduction

In this guide, you will learn how to get started with CareSelect for point-of-order medical imaging guidance. CareSelect Clinical Decision Support has been implemented for the following modalities and physician groups:

<ul> <li>CT</li> <li>MRI</li> <li>NM</li> <li>PET</li> </ul>	M	lodalities	Physician Groups
<ul> <li>MRI</li> <li>NM</li> <li>PET</li> </ul>	•	CT	• []
<ul> <li>NM</li> <li>PET</li> </ul>	•	MRI	
• PET	•	NM	
	•	PET	

#### What is CareSelect?

CareSelect Imaging, provided by National Decision Support Company, is a national standard imaging decision support system based on the American College of Radiology (ACR) Appropriateness Criteria<sup>®</sup> (AC). The criteria consulted is for high-tech imaging modalities of CT, MRI, NM, or PET.

#### Why CareSelect?

CareSelect with ACR AC<sup>®</sup> is the most comprehensive and widely recognized set of evidence-based imaging guidelines covering all modalities and clinical scenarios. More than 300 volunteer physicians representing more than 20 radiology and non-radiology specialty organizations participate on the ACR AC expert panels. These nationally transparent guidelines are being continuously updated by these experts and provide real-time access to the latest medical imaging decision support.

CareSelect is integrated with your Cerner computerized provider order entry (CPOE) workflow and guides ordering professionals to the most appropriate medical imaging exam. This ensures that the right patient gets the right scan for the right indication.

Need help? For questions, comments, and support, please contact:

# Appropriateness Criteria Scoring

CareSelect Imaging uses the following criteria to determine appropriateness scores as given in the Appropriateness Criteria:

- Patient age
- Patient gender
- Exam ordered
- Structured indication(s) selected

Numeric	Category Name	Category Definition	Disagreement
Scores (Rating)			
No Score (Gray)	Indeterminate	No score available-outside	The dispersion of
		scoring scope. The combination	the individual
		of exam, indication, patient age,	ratings from the
		and patient sex is not covered	panel median
		within Appropriateness Criteria.	rating is assessed
1, 2, or 3 (Red)	Usually not	The imaging procedure or	to demine if there
	appropriate	treatment is unlikely to be	is no disagreement.
		indicated in the specified clinical	
		scenario, or the risk-benefit	When the
		ratio for patients is likely to be	individual ratings
		unfavorable.	are too dispersed
4, 5, or 6	May be	The imaging procedure or	from the panel
(Yellow)	Appropriate	treatment may be indicated in	median
		the specific clinical scenario as	(disagreements),
		an alternative to imaging	"May be
		procedures or treatment with a	appropriate" is the
		more favorable risk-benefit	designated rating
		ratio. Or the risk-benefit radio	category.
		for patients is equivocal.	
7, 8, or 9	Usually	The imaging procedure or	
(Green)	appropriate	treatment is indicated in the	
		specified clinical scenario at a	
		favorable risk-benefit ratio for	
		patients	

- The **indeterminate** category is **gray**. No score available outside of scoring scope. The combination of exam, indication, patient age, and patient sex is not covered within the Appropriateness Criteria.
- The **usually not appropriate** category is represented by **red**. This category indicates that the harm of doing the procedure generally outweighs the benefits.

- The **may be appropriate** category is represented by **yellow.** This middle category is used when the risks and benefits are equal or unclear.
- The **usually appropriate** category is represented **green**. This category indicates that the benefits of doing the procedure usually outweigh the harms or risks.

### Guidance at the Point-of-Order

National Decision Support Company and Cerner have collaborated to ensure an optimal experience for those entering radiology orders. The entire workflow takes place directly in Cerner with minimal changes to your existing order entry workflow. Feedback is immediate, so there is no disruption to the doctor-patient relationship.

### Accessing Appropriateness Criteria in the Order-Driven Workflow

The ordering professional selects the radiology order; in this case, the order is CT Head or Brain w/ + w/o Contrast. The CDS window will present to the user upon selection of in-scope exam.



If the ordering professional does not see an appropriate indication in the common indications list, the ordering professional can enter a **reason for exam or search term** in the "Please select a reason for exam" box. This box is used to search the ACR's list of structured indications. The list of returned structured reasons for exam displays under "other indications."

#### Decision Support for CT HEAD OR BRAIN W + WO CONTRAST

	Q	I can't find a match	Cancel CT HEAD OR BRAIN W + WO CONTRAST
		Common Indications (3)	
Headache, infection suspected			
Headache, intracranial hemorrhage suspected			
□ Headache, post traumatic			
		Other Indications (10)	
	• s	ort by Rank O Sort A	-> Z
Headache, neuro deficit			
Headache, sinus or mastoid			
Headache, temporal arteritis suspected			
Headache, chronic, no new features			
Headache, cluster/trigeminal			
□ Headache, cancer or immunocompromise			
Headache, abnormal ICP suspected			
Headache, chronic, with new features			
<ul> <li>Headache, chronic, with new features</li> <li>Headache, with cough or exertion</li> </ul>			

Once the ordering professional selects the structured reason for exam on the left, CareSelect provides feedback in the decision support window on the right (seen in the screenshot below).

Decision support displays the appropriateness score of the order being placed (original order selected is listed on the right and highlighted in yellow) as well as suggested alternatives based on the criteria selected.



#### Decision Support for CT HEAD OR BRAIN W + WO CONTRAST

The ordering professional is presented with the score of the original exam and scores for alternate exams. After the ordering professional reviews the presented choices, he or she can continue with the original order or replace the original with a suggested alternative.

Each scenario includes a link to supporting evidence which the ordering professional can select to view. The ordering professional can follow the "**Display Evidence**" link to read detailed rationale from the American College of Radiology for the appropriateness scores provided.



Decision Support for CT HEAD OR BRAIN W + WO CONTRAST

#### American College of Radiology ACR Appropriateness Criteria<sup>®</sup>

Clinical Condition:

Headache

<i>Tariant 1:</i> Chronic headache. No new features. Normal neurologic examination.						
Radiologic Procedure	Rating	Comments	RRL*			
MRI head without and with IV contrast	4		0			
MRI head without IV contrast	4		0			
CT head without IV contrast	3		***			
CT head without and with IV contrast	3		***			
CT head with IV contrast	3		***			
MRA head without and with IV contrast	2		0			
MRA head without IV contrast	2		0			
Arteriography cervicocerebral	2		***			
CTA head with IV contrast	2		***			
<u>Rating Scale:</u> 1,2,3 Usually not appropriate; 4,5,6 M	Iay be appropriate; 7	,8,9 Usually appropriate	*Relative Radiation Level			

Based on the ordering professional's entry of **headache**, CareSelect filters the clinical scenarios that match with the **CT Head or Brain w/ + w/o Contrast** exam. The ordering professional simply selects the best clinical scenario that matches the patient's situation. If the ordering professional has a question on

the content, he or she can select the Display Evidence link and review the ACR appropriateness criteria PDF document.

## Selecting an Appropriate Alternate Order

Based on the appropriateness criteria feedback, the ordering professional may decide to change the order and replace with an alternate order by selecting from the list provided on the right.

headache	Q	Headach	e, chronic, no new featur	res 🗙	
			A	Appropriateness rankings for a 73	year old Female
Common Indications (3)					Display Evidence
<ul> <li>Headache, infection suspected</li> <li>Headache, intracranial hemorrhage suspected</li> </ul>			CT Head or Bra 3 Cost: \$\$	in w + wo Contrast	Confirm Cancel O
Headache, post traumatic			MRI Brain Oper	n Intracranial Proc w Con	Rep
01			Cost: \$\$\$	RRL:	
Other Indications (10)			MRI Brain Oper	n Intracranial Proc wo Cor	1
<ul> <li>Sort by Rank</li> <li>Sort A -&gt; Z</li> <li>Headache, neuro deficit</li> </ul>			4 Cost: \$\$	RRL:	Rep

The ordering professional selects a more appropriate alternate order highlighted in green.

The ordering professional is then taken to the order entry format to complete any additional order details before submitting the order.

## Continuing with the Original Order

If the ordering professional determines that the original order is still the most appropriate, the ordering professional clicks "Confirm" at the top right of the Decision Support window.

#### Decision Support for CT HEAD OR BRAIN W + WO CONTRAST

headache	Q	Headache, chronic, no new features	×	
		App	ropriateness rankings for a 73 yea	r old Female
Common Indications	(3)			Display Evidence
Headache, infection suspected     Headache, integraphic homoschape current	utod	CT Head or Brain	w + wo Contrast	Confirm Cancel Order
Headache, nost traumatic	cteu	Cost: \$\$	RRL:	
		MRI Brain Open I 4	ntracranial Proc w Con	Replace
		Cost: \$\$\$	RRL:	
Other Indications (10	))	MRI Brain Open I	ntracranial Proc wo Con	
Sort by Rank O Sort	t A -> Z	4		Replace
Headache, neuro deficit		Cost: \$\$	RRL:	

The ordering professional clicks **Confirm** to order the original procedure.

If the score of the order is 3 or below the ordering professional will be prompted with acknowledgement reasons to specify why those chose a lower scoring exam.

• Scores 1,2,3 require the information before the ordering professional can proceed to complete the order.

lease choose an ackr	owledgement reason before proceeding:	
	Consulted with Care Team	
	Disagree With Appropriateness Score	
	Complex Patient Condition	
	Other	
	Comment:*	
	Talked to Dr. Brown in radiology and will proceed with order	

The ordering professional enters why the procedure is appropriate by selecting an option from the predetermined list or selects "Other" and enters a free text reason in the box.

Once the ordering professional has gone through decision support, the ordering professional is taken into the order scratchpad to complete any remaining order-specific questions.

🔉 S 💿 🕾 🗸 Order N	lame Status Start	Oetails							
4 ICU; ICU13; 01 FIN:8: 8/00102211 4 Diagnostic Tests	Admit: 8/12/2016 7:15 AM CDT								
🔲 👸 CT Ha	d or Brain w/ Order 3/18/2019	9 10:08 A., 3/18/2019 10:08 AM CDT, Routine, Reason: Headache, chronic, no new feat	ures, No						
ze Details for CT Head or Brain w/ + w/o Contrast									
Details E Order Comments	Diagnoses								
十名九 王王									
"Requested Start Date/Time:	03/18/2019	CDT *Priority:	Routine	Reason for exerna	Headache, chronic, no new features				
Special Instructions		Consulting physician:	٩,	Pregnant:	No				
		Transport mode:	v	Sedation Type:	¥				
Patient has N	C Yes C No	Patient on O2:	C Yes C No	Future Orden	C Yes C No				
ABN Status	×	ABN Reason:	v	Imaging Subspecialty:	v				
Scheduling Instructions	×	CareSelect DSN:	68709938	CareSelect Score	1				
CareSelect Acknowledgement Reasons	Other	CareSelect Acknowledgement Reason Comment:	Talked to Dr. Brown in radiology a						
O Missing Required Details Dx Table	Diders For Cosignature Orders For	Nazat Parvisse				Sign			

The ordering professional then signs and completes the order.

## **Common Indications Functionality**

This functionality allows organizations to show the most common indications for an exam. The goal is to limit the indication list to be a useful pick list under 15-20 indications. The NDSC content team has created a content set that contains the most common indications for an exam.

Common indication lists are created according to market utilization and clinician review. A thorough review of each exam was done by practicing physicians to determine the most impactful clinical scenarios to create streamlined indication lists that should encompass highest use case clinical reasons for the given exam. NDSC evaluated common clinical reasons for the exams and common customer choices seen across the NDSC customer base.

Example of common indications for a CT Head or Brain WO Contrast:

#### Decision Support for CT HEAD OR BRAIN WO CONTRAST

ease select a reason for exam	T and to find a successful		
Q	I can t find a match	Cancel CT HEAD OR BRAIN WO CONTRAST	
	Common Indications (10		
	Common Indications (10	)	
□ Altered mental status			
Brain mass or lesion, follow-up			
Head trauma, vascular injury suspected			
Headache, infection suspected			
Headache, intracranial hemorrhage suspected			
Headache, post traumatic			
Neuro deficit, acute, stroke suspected			
Polytrauma, critical, head/C-spine injury suspected			
Subdural hematoma			
Syncope, recurrent			
			NATIONAL
			DECISION SUPP

If an ordering professional does not see the desired reason for exam, he or she can begin typing in the "Please select a reason for exam" search box and other indications will appear.



lease select a reason for exam				
headache	Q	I can't find a match	Cancel CT HEAD OR BRAIN WO CONTRAST	
	c	Common Indications (3)		
Headache, Infection suspected				
Headache, Intracramal hemorrhage suspected				
		Other Indications (10)		
	• Sort	t by Rank Osort A	-> Z	
Headache, neuro deficit				
Headache, sinus or mastoid				
Headache, temporal arteritis suspected				
Headache, cancer or immunocompromise				
Headache, chronic, no new features				
Headache, cluster/trigeminal				
Headache, with cough or exertion				
Headache, abnormal ICP suspected				
□ Headache, chronic, with new features				
Headache, acute, normal neuro exam				
				NATIONAL
				COMPANY

If a desired reason for exam is still not located, select "I can't find a match."

Dec	Please provide some feedback before proceedi	ng	AST
Please select a reason for exam pain	Reason for Exam: Feedback Regarding Missing Indication:*	pain occipital pain, no trauma	ONTRAST
		Confirm and submit order?	
		Submit Cancel	
	Other Indic	ations (4)	
	Sort by Rank	⊖Sort A -> Z	
🗆 Ocular pain			
Oropharyngeal pain or weakne	ess (CN 10)		
Facial pain or sensory abnormatic	ality, mastication muscle weakness (CN 5)		
Abnormal weight gain			
			NATIONAL DECISION SUPPORT

Ordering professionals will be prompted to enter feedback on the missing indication. This feedback is regularly evaluated for future updates to CareSelect.

Ordering professionals then manually enter their desired reason for exam in the free text reason for exam on the order details scratchpad. "No Score" will display in the score field because exact AUC could not be consulted do to inability to locate the desired indication in CareSelect.

### Millennium Applications CDS

Review for accuracy as pertinent to your Cerner Millennium domain information may be viewable in.

After signing the order, the order displays in "diagnostic tests" in the details tab with order information.

Contract of							
28	ASTER, BEVERLY MAR	ION	D08: 1/20/	1946 Mat	Age: 72 years	Sex Female Resurctation Status	FIN: 000102211 Clinical Trials
674	Care Team:: Simmons, Justin	nded ne,(913) 555-1133	Loc: ICU; IC		CommonWell: Not Enabled	HealtheLife: Yes	Advance Dir:
Men	> • 🔒 Orders						💭 Full screen 🛛 👼 Print 🛛 📚 0 minutes ag
- mp	Add   🖓 Document Medication	h by Hx   Reconciliation •	Check Interactions	External Rx History*	Rx Plans (0): No Benefit Found *		Reconciliation Status     Meds History     Admission     Discharge
Ord	ers Medication List						
H	Displayed All Active Orders LAT	Inactive Orders (All Orders 5 D	ays Back				
	2 2 2	Ordar Nama Stat	tur Dore Datai	le .			
	△ Diagnostic Tests						
	₩ 610 <sup>°</sup>	LT Head or Brain w/o Ord	sered ( 12/10	/1812:27:00 CST, Koutin	e, Keason: Headache, acute, severe, worst HA of life, No, Neuro		
	Details						
	Dix Table Orders For Co	orignature   Orders For Nurs	e Review				Orders For Signature
P				ASTER, BEV	ERLY MARION - Order Information for: CT Head or Brain w/o Contras	t	_ <b>D</b> X
Task	View Help						
±¶L	l₀ k?						
±¶L Origin	I⊙ №? al order entered and ele	ctronically signed by	Johnson, Phil on 1.	2/10/2018 at 12:51 I	PM CST.		
طال Origin Radiol	I⊙ № al order entered and ele- ogy Department	ctronically signed by.	Johnson, Phil on 1	2/10/2018 at 12:51 I	PM CST.		
·네 Origin Radiol CT H	I⊙ №? al order entered and elec ogy Department lead or Brain w/o	ctronically signed by.	Johnson, Phil on 1.	2/10/2018 at 12:51	PM CST.		
IJ Origin Radiol CT H	I <sub>☉</sub> <b>k?</b> al order entered and elec ogy Department lead or Brain w/o	ctronically signed by Contrast	Johnson, Phil on 1.	2/10/2018 at 12:51 I	PM CST.		
Deta	I order entered and elec ogy Department lead or Brain w/o	ctronically signed by. Contrast History Comments	Johnson, Phil on 1.	2/10/2018 at 12:51   sults Ingredients	PM CST. Pharmacy		
Drigin Radiol CT H	Io K? al order entered and elec ogy Department lead or Brain w/o nik Additional Info I	ctronically signed by Contrast History Comments	Johnson, Phil on 1.	2/10/2018 at 12:51   sults Ingredients	PM CST.		
Urigin Radiol CT H	I N N a lorder entered and elee gy Department lead or Brain w/o nils Additional Info I tails	ctronically signed by. Contrast History Comments	Johnson, Phil on 1:	2/10/2018 at 12:51 I sults Ingredients	PM CST.		]
Deta	Io K? al order entered and ele- ogy Department lead or Brain w/o hils Additional Info I tails quested Start Date/Time	ctronically signed by Contrast History Comments 12/10/2	Johnson, Phil on 1. Validation Res	2/10/2018 at 12:51 I sults Ingredients	PM CST.		
Deta	I N? al order entered and ele- ogy Department lead or Brain w/o sils Additional Info I tails quested Start Date/Time ority	tronically signed by Contrast History Comments 12/10/2 Routine	Johnson, Phil on 1. Validation Res	2/10/2018 at 12:51   sults Ingredients	PM CST.		
Deta	Io №? al order entered and ele- ogy Department lead or Brain w/or alis Additional Info I tails quested Start Date/Time ority ason for exam:	tronically signed by Contrast History Comments [12/10/2 Routine Headac	Johnson, Phil on 1. Validation Res 018 12:27 PM CST : he, acute, severe, t	2/10/2018 at 12:51   sults Ingredients	PM CST. Pharmacy		
Drigin Radiol CT H Deta Deta Priv Rea Priv	I №? al order entered and ele- ogy Department lead or Brain w/or alis Additional Info I tails quested Start Date/Time ority sgon for exam: sgnant	Contrast History Comments 12/10/2 Routine Headac No	Johnson, Phil on 1. Validation Res 018 12:27 PM CST s he, acute, severe, y	2/10/2018 at 12:51   ults Ingredients	PM CST. Pharmacy		
Drigin Radiol CT H Deta Deta Priv Rea Pre	I №? al order entered and ele- ogy Department lead or Brain w/or mils Additional Info I tails Additional Info I tails suested Start Date/Time ority ason for exam: ggnant quierd radiology order fr	Contrast History Comments 12/10/2 Routine Headac No comma field (Rad Typ	Validation Res 12:27 PM CST he, acute, severe, v	2/10/2018 at 12:51   iults   Ingredients   worst HA of life	PM CST.		
Deta Deta Deta Priv Rea Priv Rea Ov	I №? al order entered and elec- gy Department lead or Brain w/o alis Additional Info I tails quested Start Date/Time ority ason for exam: signant upured radiology order for erride Share V/N	ctronically signed by. • Contrast History Comments 12/10/2 Routine Headac No Print field Rad Tyr	Johnson, Phil on 1. Validation Res 018 12:27 PM CST e he, acute, severe, v	2/10/2018 at 12:51 I sults Ingredients	PM CST.		
Deta	I №? al order entered and ele- gy Department lead or Brain w/o sils Additional Info I tails quested Start Date/Time ority ason for exam: gnant quired radiology order for erride Share Y/N aging Subspecialty	ttronically signed by Contrast History Comments 12/10/2 Routine Headac No No Neuro	Johnson, Phil on 1. Validation Res 018 12:27 PM CST the, acute, severe, to pe	2/10/2018 at 12:51   uilts ingredients worst HA of life	PM CST.		
Deta	Io №? al order entered and ele- gy Department lead or Brain w/or stails Additional Info I tails Additional Info I tails acceleration acceleration acceleration tails acceleration accel	Contrast History Comments [2/10/2] Routine [Headac No [4127070] [4127070]	Johnson, Phil on 1. Validation Res 018 12:27 PM CST : he, acute, severe, y pe	2/10/2018 at 12:51 i sults Ingredients	PM CST. Pharmacy		
الله المحالي محالي محالي محالي محالي محالي محالي محالي	Io №? al order entered and ele- gay Department lead or Brain w/or alls Additional Info I tails Additional Info I tails ason for exam: agant quired radiology order for erride Share Y/N aging Subspeciality reselect DSN reselect DSN reselect DSN	Contrast History Comments [2/10/2 Routine [Headac No No No No No [No [2/10/2 Routine [Headac] No [No [2/10/2 [2/10/2] Routine [1/10/2] Routine	Validation Res 018 12:27 PM CST he, acute, severe, v pe	2/10/2018 at 12:51	PM CST. Pharmacy		
الله المحالي محالي محالي محالي محالي محالي محالي محالي محا محالي محالي	I №? al order entered and elec ogy Department lead or Brain w/o hils Additional Info I tails quested Start Date/Time ority ason for exam: aguiner radiology order for erride Share V/N aging Subspecialty reselect DSN reselect Score weaperscript Script	ttronically signed by Contrast History Comments 12/10/2 Routine Headac No Neuro 4120204 9 	Johnson, Phil on 1. Validation Res 018 12:27 PM CST he, acute, severe, v pe	2/10/2018 at 12:51 I	PM CST.		
الله المحالية محالية محالية محالية محالي محالية المحالية المحالية المحالية المحالية المح محالية محالية المحالية المحالي محالية محالية المحالية المحالي	I №? al order entered and ele- gy Department lead or Brain w/o alls Additional Info I tails quested Start Date/Time ority ason for exam: ggnant quired radiology order for erride Share Y/N aging Subspecialty reselect DSN reselect DSN reselect Score sprocessing Script	ttronically signed by Contrast History Comments 12/10/2 Ne Ne Ne Ne Ne Ne Ne Ne Ne Ne	Johnson, Phil on 1. Validation Res 018 12:27 PM CST the, acute, severe, v be	2/10/2018 at 12:51 I iults Ingredients worst HA of life	PM CST. Pharmacy		
الله المراجع الم المراجع المراجع المراجع مراجع المراجع ال مراجع المراجع الم المراجع المراجع المراجع مراجع المراجع ال المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراح	Io №? al order entered and ele- gy Department lead or Brain w/or alis Additional Info I tails quested Start Date/Time ority ason for exam: sgnant quired radiology order for erride Share Y/N aging Subspecialty reSelect DSN reSelect Score sprocessing Script	Contrast History Comments [12/10/2] Routine Headac No No Neuro 412020 9 9	Johnson, Phil on 1. Validation Res 018 12:27 PM CST s he, acute, severe, v se i radiology_subspec	2/10/2018 at 12:51 I ults Ingredients worst HA of life	PM CST. Pharmacy		
State     Origin     Radiol     CT H       Deta       Deta       Deta       Deta       Deta       Deta       Deta       Deta       Deta               Deta   Deta	I №? al order entered and elec ogy Department lead or Brain w/o sile Additional Info I tails quested Start Date/Time ority ason for exam: sgnant quired radiology order for erride Share Y/N aging Subspecialty reselect DSN reselect Score processing Script	Contrast History Comments (2001) History Comments (2/10/2 Routine (12/10/2) Routine (12/10/2) Rout	Johnson, Phil on 1. Validation Res 018 12:27 PM CST he, acute, severe, v be se radiology_subspec	2/10/2018 at 12:51 I	PM CST.		
State     Origin     Radiol     CT H       Deta       Deta       Deta       Deta       Deta       Deta       Deta       Deta       Deta   Deta                                 Deta <td>I №? al order entered and ele- ogy Department lead or Brain w/o alis Additional Info I tails quested Start Date/Time ority ason for exam: agnant quired radiology order for eride Share V/N aging Subspecialty reSelect DSN reSelect Score processing Script</td> <td>Contrast History Comments Elistory Comments Routine Headac No No Neuro 412020 9 pp_set</td> <td>Johnson, Phil on 1. Validation Res 018 12:27 PM CST he, acute, severe, v be radiology_subspec</td> <td>2/10/2018 at 12:51 I</td> <td>PM CST.</td> <td></td> <td></td>	I №? al order entered and ele- ogy Department lead or Brain w/o alis Additional Info I tails quested Start Date/Time ority ason for exam: agnant quired radiology order for eride Share V/N aging Subspecialty reSelect DSN reSelect Score processing Script	Contrast History Comments Elistory Comments Routine Headac No No Neuro 412020 9 pp_set	Johnson, Phil on 1. Validation Res 018 12:27 PM CST he, acute, severe, v be radiology_subspec	2/10/2018 at 12:51 I	PM CST.		
Sector     Origin     Radiol     CT H       Deta       Pere       Price       Price       Ov       Ov       Ov       Pre	I №? al order entered and ele- gy Department lead or Brain w/o ilis Additional Info I tails quested Start Date/Time ority ason for exam: gnant quired radiology order for erride Share Y/N aging Subspeciality reselect DSN reselect Score sprocessing Script	ttronically signed by Contrast History Comments 12/10/2 No No Neuron 12/20/2 No Neuron 12/20/2 No Neuron 12/20/2 No Neuron 12/20/2 No Neuron Neuron 12/20/2 No Neuron 12/20/2 No 12/20/2 No Neuron	Johnson, Phil on 1. Validation Res 018 12:27 PM CST he, acute, severe, v pe	2/10/2018 at 12:51 I	PM CST.		
State     Originol     CT H       Deta   Deta   Deta   Deta   Deta   Deta   Deta   Deta   Deta   Deta   Deta   Deta   Deta   Deta   Deta   Deta	I №? al order entered and ele- gy Department lead or Brain w/o sils Additional Info I tails quested Start Date/Time ority ason for exam: gnant quired radiology order for erride Share Y/N aging Subspeciality reselect DSN reselect Score eprocessing Script	ttronically signed by Contrast History Comments 12/10/2 Routine Neuro 12/2020 9 pp_set	Johnson, Phil on 1. Validation Res 018 12:27 PM CST 2 he, acute, severe, y 20 1 radiology_subspec	2/10/2018 at 12:51   sults Ingredients worst HA of life	PM CST.		
SIL Origin CT H Deta Deta Rec Prin Rec Prin Rec Ov Can Can Pre	I №? al order entered and elec ogy Department lead or Brain w/o sile Additional Info I tails quested Start Date/Time ority ason for exam: sgnant quired radiology order for erride Share Y/N aging Subspecialty reselect DSN reselect Score processing Script	Contrast History Comments History Comments Headac No mmat field Red Typ No (No (12/10/2 Red Typ No (12/2020 9 (pp_set)	Johnson, Phil on 1. Validation Res 018 12:27 PM CST s he, acute, severe, s pe radiology_subspec	2/10/2018 at 12:51 i iults Ingredients	PM CST.		
State     Origin     Radiol     CT H     Deta     <	I №? al order entered and ele- ogy Department lead or Brain w/o alis Additional Info I tails quested Start Date/Time ority ason for exam: agnant quired radiology order for eride Share V/N aging Subspecialty reSelect DSN reSelect Score sprocessing Script	Contrast History Comments (2001) History Comments (2/10/2 Routine (Headacc No No No (12/2020) 9 (pp.set.	Johnson, Phil on 1. Validation Res 018 12:27 PM CST he, acute, severe, v be acute, severe, v radiology_subspec	2/10/2018 at 12:51 I	PM CST.		
Sign     Origin     Radiol     Ott     Deta     Deta     Pre     Res     Prir     Cai     Pre	I №? al order entered and ele- gy Department lead or Brain w/o ilis Additional Info I tails quested Start Date/Time ority ason for exam: gnant quired radiology order fr erride Share Y/N aging Subspeciality reselect DSN reselect Score sprocessing Script	ttronically signed by Contrast History Comments 12/10/2 No Neuron 4120204 9 pp_set	Johnson, Phil on 1. Validation Res 018 12:27 PM CST : he, acute, severe, v pe 4 radiology_subspec	2/10/2018 at 12:51   sults Ingredients worst HA of life	PM CST.		
Sign     Origin     Radiol     Other     Deta     Deta     Deta     Prin     Red     Prin     Red     Ov     Imm     Cai     Pre	I №? al order entered and ele- gy Department lead or Brain w/o sils Additional Info I tails quested Start Date/Time ority ason for exam: gnant quired radiology order for erride Share Y/N aging Subspeciality reselect DSN reselect Score eprocessing Script	ttronically signed by Contrast History Comments 12/10/2 Routine Headac No No 12/20/2 Routine No 12/10/2 Routine 12/10/2 Rout	Johnson, Phil on 1. Validation Res 018 12:27 PM CST : he, acute, severe, v se : : : : :	2/10/2018 at 12:51 I	PM CST.		
•¥]     Origin Radiol     Ott     Deta     Red     Priving     Red     Ov     Image: California     Origin Pre	I №? al order entered and ele- ogy Department lead or Brain w/o sils Additional Info I talis quested Start Date/Time ority ason for exam: signant quired radiology order for erride Share Y/N aging Subspecialty reselect DSN reselect Score sprocessing Script	Contrast History Comments History Comments Headac No Internatifield Read Typ No Neuro 4120204 9 (pp_set	Johnson, Phil on 1. Validation Res 018 12:27 PM CST he, acute, severe, y pe radiology_subspec	2/10/2018 at 12:51 I	PM CST.		
Status     Deta	I №? al order entered and ele- ogy Department lead or Brain w/o alis Additional Info I tails quested Start Date/Time ority ason for exam: agnant quired radiology order for eride Share V/N aging Subspecialty reSelect DSN reSelect Score sprocessing Script	Contrast History Comments Reutine Headac Domat field Reutine No No Neuro 412020 9 Pp_set	Johnson, Phil on 1. Validation Res 018 12:27 PM CST he, acute, severe, v be radiology_subspec	2/10/2018 at 12:51 I	PM CST.		

On the Cerner Imaging Worklist, in the order detail inquiry window, the following order information is displayed:

14	Cerner Imaging: Online Work List	- 0 X
Task View Launch Help		
🍹 😔 🛕 🌉 😂 👂 🕭 🔯 🗹 🤒 🎯		
Image: Section 2010         Image: Section 2010	Come Innaging Onlie Datal Inquiry         X           Public Home ASTER BERENY MARCH Mitter Coll22068         Data of India: 1201346 Disc. Francis Accession: CT-18020058         Data of India: 1201346 Disc. Francis Procedure: CT-18020058         Data of India: 1201346 Disc. Francis Procedure: CT-18020058         Data of India: 1201346 Disc. Francis Disc. Othered Collared Ondering physics: Address Phil Collared Ondering Philone Collared Ondering Phil Collared Ondering Philone	Aa of 02 06 PM
JACISON, HEINEY Nu Mached JACISON, HEINEY Nu Mached JACISON, HEINEY Ru Mached JACISON, HEINEY Ru Ne Mached NELSON, ACM Nor Mached	Dame Information         Other Oteshin         Real Trade of Section           © CTH stade Trains No Co         Required Addressing and from         Red Types           © ST Hade of Terms No Co         Required Addressing and from         Red Types           © ST Hade of Terms No Co         Required Addressing and from         Red Types           © Addressing Prescovel         Required Addressing Addressing and from         Red Types           – Owner Resourcel         Reason for earen         Headorks acute, server, worst HA of Itle           – Assigned To         Owner Resourcel         Owner Resourcel           – Basen Reson         BVMC CT Fire 1         Imaging Subsectivity           Preprocessing Subsectivity         Naure           Carefidence DDN         4120204           Carefidence DDN         4120204	Oldered Odered Ordered Ordered Oldered
1	Image: Control of the second secon	þ
Total cases: 6		Details Exit

In Cerner Exam Management, in the order detail inquiry window, the following order information is displayed:

a de la companya de la compa	Cerner Imaging: Exam Management	_ 0 X
Task Edit View Select By Launch Help	Cemer Imaging: Order Detail Inquiry	x
V N = 2 = 2 × > 1 = 1 = 1 = 1 = 1		
*Accession: CT-18-0000456 (k) (s ANR Personnel Region Board Region Regio	Patentnerw. ATTER EDIERLY MARCH Date of birth. 1201946 MRN: 01022090 Birc: Female aud. Pat Finited inturbe: 000102211 Exam DTTML Accessing: CT-10.000346 Outside Objension. Admon. Phil Proceedure: CT Head of Bion vide Contest Original Objension. Phil	
Patient Information	Exam status: Ordered	
MMH:         D102206         Isolation:           Name:         ASTE (DRIVINA)         Offen the Johnson Phil         D           DOB:         1/20136         Phone (HOME):         079 241-1         B           Sea:         Final Sea:         FIN NBE:         00102211         B           Bas:         Finals         Encounter type:         Indirect         B           Encounter:         E0/20131.01         B         B         Encounter type:         Indirect           Procedure:         Comment:         Reasoning type:         Encounter type:         Indirect         Indirect <th>Report Report Details         Earn Defail         Technical Community         Modications         MPPS Details           Earn Memmidio         Defa         Defa&lt;</th> <th></th>	Report Report Details         Earn Defail         Technical Community         Modications         MPPS Details           Earn Memmidio         Defa         Defa<	
	Elizabeted Score         9           Elizabeted Score         9           Biled As         Outered By         Outer Date           Biled As         Outered By         Outer Date	
٤	Quie	k Print Manual Expedite Close
Bar code entry	Image Management	Start Complete Exit

# Clinical Decision Support with PowerPlans

PowerPlans with high-scoring reason for exam order sentences

If a PowerPlan has an order sentence that contains a high-scoring indication (based on ACR Appropriateness Criteria) as the saved reason for exam, CDS will not present to ordering professionals and a score and DSN will be automatically assigned in the background.

+ Add and Add	Document Medication by Hx   Reconciliation *   🕭 Check Interactions   🛅 External Rx History *   H	ka Plans (II): No Benefit Found =	Reconciliation Status Meds History  Admission Discharge
Search:	Advanced Options v Type: 🚱 Inpatient	v	×
😰 Up	🛛 🚰 Home 🚖 Favorites 🔹 🦳 Folders 🗈 Copy 🖾 Trials Folder: Hospitalist Home	Search within: All v	
🛨 Plans			
	Start: Now Duration: None		
60	\$ Component Status Dose	Details	^
	acetaminophen	500 mg, Oral, Tab, Once	
L_	C oxyCODONE	S mg, Oral, Iab, Once	
	morphine	Selection and state sentence	
	metoclopramide	10 ma. IV Push. Injection. Once	
Π	ondansetron	4 mg, Oral, Tab, Once	
	🖑 promethazine	12.5 mg, IV Push, Injection, Once	
	😁 prochlorperazine	10 mg, IV Push, Injection, Once, First Dose: T;N	
⊿ Labo	pratory		
	Complete Blood Count with Differential (CBC w/ Diffe	Blood, Stat collect, T;N, Once, Lab Collect	
	Basic Metabolic Panel	Blood, stat collect, 1/N, Unce, Lab Collect	
	Colucise POC	Blood, stat collect. T/N, Once, Lab Collect Blood Stat collect. T/N, Nuce collect	
	Cell Count w/ Diff CSF	Cerebrospinal Fluid, Stat collect. T:N. Once. Nurse collect	
	C-Reactive Protein	Blood, Stat collect, T;N, Lab Collect	-
⊿ Diag	nostic Tests		
R	CT Head or Brain w/o Contrast	T;N. Stat Reason: SAH suspected, initial exam No, Transport Mode: Stretcher	
	MRA Head w/ Contrast	T;N, Stat, Once, Transport Mode: Stretcher	
⊿ Resp	piratory		
4 6	Oxygen Therapy	1;N, L/min: 2, May titrate up to 4 L/min to maintain O2 at 92% or greater	
	Notify Provider	T;N, if unable to maintain oxygen saturation greater than 92%	
	. CT Head or Brain w/o Contract		
± Deta	ins for CT Head Of Brain w/o Contrast		
🛱 Det	ails 🔠 Order Comments 🍈 Offset Details 🔄 Diagnoses		
+ *	<b>a</b> h. <b>↓</b> ≿		
	Requested Start Date/Time: **/****	*Priority: Stat   Reason for exam:: SAH suspected, initial exam	n
	Special Instructions:	Consulting physician: Ro	• ·
DxTa	ble Orders For Cosignature Orders For Nurse Review Save as My Favorite		Orders For Signature

#### PowerPlans without high-scoring reason for exam order sentences

When ordering a PowerPlan that has not been updated with a high scoring reason for exam order sentence, order the PowerPlan and initiate as normal. When the PowerPlan is initiated, CDS will prompt for all in-scope exams. Complete CDS in the same manner as CDS for an individual exam. The example below would display CDS to evaluate the appropriateness of "trauma" for a CT Head or Brain w/o Contrast given the patient's age and gender.

🛇 🕂 Add to Phase	A Check Alerts 🔐 Comments Start: Now Duration: 1 Da	/S	
8 8	Component Status	Dose Details	
	Complete Blood Count with Differential (CBC w/ Diffe	Blood. Stat collect. T:N. Once. Nurse collect. 0	
	Comprehensive Metabolic Panel (CMP)	Blood, Stat collect, T:N, Once, Nurse collect, 0	
	T PT	Blood, Stat collect, T;N, Once, Nurse collect, 0	
	T INR	Blood, Stat collect, T;N, Once, Nurse collect, 0	
	Type and Screen	Blood, Stat collect, T;N, Nurse collect	
	T Ethanol Level	Blood, Stat collect, T;N, Once, Nurse collect, 0	
	🖄 Drug Screen Urine	Urine, Stat collect, T;N, Once, Nurse collect	
	Glucose POC	Blood, Stat collect, T;N, Once, Nurse collect, 0	
	Amylase Level	Blood, Stat collect, T;N, Once, Nurse collect, 0	
	😰 Lipase Level	Blood, Stat collect, T;N, Once, Nurse collect, 0	
	Urinalysis with Microscopic, if indicated (UA)	Urine, Stat collect, T;N, Once, Nurse collect	
	😰 Blood Gas Arterial (ABG)		
	Hepatic Function Panel		
	D-Dimer		
	T PTT		
	Beta hCG Qualitative		
	DIAGNOSTICS		
	CI Head or Brain w/o Contrast	TN, Stat, Reason: Other (please specify), Reason: Trauma, Transport Mode: Stretcher, 0	
	CT Spine Cervical W/o Contrast	The Stat, Reason: Other (please specify), Reason: Trauma, Transport Mode: Stretcher, 0	
m	CT Thorax W/ Contrast (CT Chest W/ Contrast)	(), Stat, Reason: Other (please specify), Reason: Trauma, Transport Mode: Stretcher, 0	
6	CT Abdomen w/ Contrast	The Stat, Reason: Other (please specify), Reason: Trauma, Transport Mode: Stretcher, 0	
	VD Chart 1 View Frants VD 1 View Frants D	The State Reason: Other (please specify), Reason: Trauma, Transport Mode: Stretcher, 0	
	CC 12 Lord	Triv, Stat, Reason: Other (please specify), Reason: Trauma, Transport Mode: Stretcher, 0	
	A DATIENT CADE	stat, Dyspitea[sOB]	
	Necessaria (Accession Table Installing (NC/OC Table I	7.61	
	Hispan Catheter Incertion	Lin Lodualling	
	Reinhard Minration	v2 large loss	
	Vital Singer		
	Courses per Face Mark	900	
	A MEDICATIONS	Cymme Ty, wonnebreatha Waak	
	Sedium Chloride 0.9% (NS)	V. Start Date: T-N. Rolur	
	tetanur toxoid	O Smith Mason Once	
	Lastated Pingers Injection	1000 Boliv	

Ordering professional completes any remaining order fields and signs the order.

### Searching Using a Diagnosis

The ordering professional can opt to select a diagnosis prior to entering the order. In the example below, "acute headache" is selected as the patient's diagnosis.

4" Document Medication by He Re Medication List	conciliation*   🕭 Check Inter	actions   De Esternal Rx History	y*   Ro Plans (0): No Sansefit Found* O Media History Ø Administ	ın 🜖 Dis
	View		Seach: 🔍 🔍 Advanced Options 🗸 Type: 🎒 Inpatient 🗸	
Diag	noses & Problems		The second distance of	
			In the table of the tables of the tables of the tables of tables o	
nosis (Problen) being Addressed this Visit			CT Head or Brain w/ + w/o Contrast	
Add 띀 Convert Display: Ad	lve	~	CT Head or Brain w/ Contrast	
			CT Head or Brain w/o Contrast	
			CT Head Outside Images	
Annotated Daplay	Code	Clinical Dx	Head Us of Brain W + WO Contrast Head (T Animarchine - WO Contrast	
History of breast cancer	Z85.3	Personal history of malig	CT Annuarki Heed with with Contract	
Knee pain, right	M25.561	Pain in right knee	Head or Brain CT w/ Contrast	
H/O CT scan	292.89	Personal history of other	Head or Brain CT w/o Contrast	
CVS disease	125.10	Atherosclerotic heart dise	Outside Images CT Head	
Cardiac ischemia	124.9	Acute ischemic heart dise	Head MRA w/ + w/o Contrast	
Lower back pain	M54.5	Low back pain	Head MRA w/ Contrast	
1 Acute headache	851	Headache	Head MRA w/o Contrast	
			Lievate Head of Bed Constant order	
		>	MPA HIDD W/ W/O CONTROL MPA Lindow // Contract	
			MBA Head will Contrast	
MT6			CONC Head and Neck Cliplatin	
Add 😘 Convert 🔂 No Day	nic Problems		MRI Brain w/ - w/o Contrast T;N, Routine, Reson: Head Injuny, No	
z Al		~		
nnotated Display A Name of Pro	blem Code	Condition Na A		
bdominal pain in femal Epigastric p	ain 132601013	Epigastric (		
cute headache HA - Head	sche 1224414017	Acute head		
AD in native artery Coronary a	teriosclerosis 2920435019	CAD in nat		
ow back pain Low back p	an 40139010	Low back p		
plucystic overian syndro Polycystic	tracian sundro 800C9835-8	C4-43ID-A., Polycystic		
OR (rhostnare of brasils) Dormas	307885/12	COR /shout ¥		
		>	Codes for Sprature	
			▲ Details	
	Inisted Beruite			
	and the second sec			

After selecting a diagnosis, the ordering professional enters an order, in this example CT Head or Brain WO Contrast.

The CDS window will search using synonym terms for the selected diagnosis, filtering down indications based on the previously selected diagnosis of acute headache.

Please select a reason for exam			
	Q	I can't find a match	Cancel CT HEAD OR BRAIN WO CONTRAST
Filtering by Your Order Diagnosis:			
		Common Indications (4)	)
Headache, infection suspected     Headache, intracranial hemorrhage suspected     Headache, post traumatic     Polytrauma, critical, head/C-spine injury suspected	I		
		Other Indications (22)	
	) Se	ort by Rank O Sort A	\->Z
Headache, acute, normal neuro exam Headache, acute, normal neuro exam Carotid or vertebral dissection suspected Headache, neuro deficit Headache, abnormal ICP suspected Headache, with cough or exertion Headache, temporal arteritis suspected Headache, cluster/trigeminal			

Decision Support for CT HEAD OR BRAIN WO CONTRAST

The user can also unselect the "Filtered by Order Diagnosis" box to search for additional indications.