





NCIS GUIDE on Complexity Bands in NCIS.Med

1. Background

The NCCP have published a Capacity Planning Toolkit for parenteral SACT compounding and dispensing in hospital pharmacy departments. As part of this toolkit, a Complexity Band may be applied to each product manufactured in the aseptic compounding unit as well as all products that have been outsourced. Complexity Bands from 0-5 and the timings associated with each Complexity Band have been based on a consensus from the working group benchmarked to international practice.

In NCIS, Complexity Bands are managed via the "additional articles and services" functionality. Complexity Bands are built either at drug or regimen level depending on whether multiple presentations of the dosage form exist (i.e. syringe, infusion, infusor).

This quick guide explains how to use Complexity Bands in NCIS and reporting options for Complexity Bands.

NOTE: All screenshots in this Guide are from the Training and Test Environments of NCIS. All patients and hospital are fictitious and are not intended to represent the identity, setup and functionality or real patients or facilities.

2. Associated documentation

- NCCP Parenteral SACT Capacity Planning Toolkit Implementation Document Version 1 07/06/2017
- NCCP Parenteral SACT Capacity Planning Toolkit User Manual Version 1 07/06/2017

3. Complexity Bands built into NCIS

The NCIS Office has built Complexity Bands in the drug file, and into NCCP regimens where more than one complexity band exists for a drug. For example, fluorouracil:

- Complexity Band 1 built for fluorouracil prepared in ACU as bolus (*drug file*)
- Complexity Band 5 built for fluorouracil prepared in ACU as infusor (regimen)

Products in the drug file for out-sourced pathways are set up with a Complexity Band of 0:

- Products with "(out-sourced)" included in the product name e.g. CARBOplatin (out-sourced)
- Dose banded products e.g. CARBOplatin IV Infusion (DB) in 250mL Glucose 5%

4. Lot management of Complexity Bands

Complexity Bands in NCIS are set up via the "additional articles and services" functionality. Two lots are set up for each Complexity Band:

- 1. USE THIS BAND, expiry 31/12/2098
- 2. IGNORE THIS BAND, expiry 31/12/2099

These lots are set up by the NCIS Office in advance of go-live. Lot deduction has been turned off for complexity bands. Therefore, lot management is a once-off set-up by the NCIS Office and no action is required by hospital users for lot management.

5. Using Complexity Bands in NCIS

Scenario 1: one Complexity Band built for product

The majority of products will only have one Complexity Band built at drug file level, as they only have one final presentation e.g. CISplatin infusion. For these products, the functionality has been set up for the Complexity Bands to automatically populate.

Create/edit parts list	
Planned preparation time: 25/08/2020 14:13 Preparation method: Volumetric	
Products	
CISplatin 1mg/mL Teva Concentrate for solution for 2x 100mg (23626262) infusion: 175mg Remainder:29mg	100n 2x
Total syringes 5x Luer Lok Syringe 50mL polypropylene	
Containers and additional articles (per medication)	
Med.# 25114, QURESHI MARY, Patient no.: 518032, for Tue, 25/08/2020 08:00 (TRN - Training Day Ward) CISplatin 1mg/mL Teva Concentrate for solution for infusion 175mg in 1000mL NaCl 0.9%, by intravenous infusion	1x NaCl 0.9% 1000mL Viaflo bag non-PVC Baxter (HUIW88) 1x Complexity Band 2 (1 USE THIS BAND) 2x Light Protection

Figure 1: Parts list for product with one Complexity Band (lot "1 USE THIS BAND" auto-selected)

Scenario 2: two Complexity Bands built for product

In some cases, two Complexity Bands will be pulled through to the parts list and the user can select the appropriate lot for each Complexity Band. For example, fluorouracil may be prepared as a bolus, an infusion or an infusor, with different Complexity Bands assigned to each preparation type. One Complexity Band will be pulled through from the drug file, while another Complexity Band will be pulled through from the drug file, while another Complexity Band will be pulled through from the NCIS regimen.

Create/edit parts list			
Planned preparation time: 25/08/2020 14:31	Preparation method: Volumetric		
Products			
Fluorouracil 50 mg/mL Accord Solution for injection/infusion: 4200mg	2x 2500mg (23626266)		2500mg 2x
Remainder overig			
Total syringes 2x Luer Lok Syringe 50mL polypropylene			
Containers and additional articles (per	r medication)		
Med.# 25136, QURESHI MARY, Patient no.: 518	8032, for Tue, 25/08/2020 10:40 (TRN - Training Day Ward)	1x NaCl 0.9% 50mL Freeflex bag. non-PVC Fresenius Kabi. 1x SV2,5 Infusor 120mL elastomeric 1x Complexit	y Band
Fluorouracil 50 mg/mL Accord Solution for in q.s. to 115mL NaCl 0.9%, SV2.5 Infusor 120mL el	ijection/infusion 4200mg lastomeric, by intravenous infusion	1 (1 USE THIS BAND) (*), 1x Complexity Band 5 (1 USE THIS BAND)	

Figure 2: Two Complexity Bands pulled through to parts list

The user can then select the appropriate lots. In the above example, fluorouracil is being prepared as an infusor. The appropriate band is "Complexity Band 5" so the lot "1 USE THIS BAND" is selected for Complexity Band 5 and lot "2 IGNORE THIS BAND" is selected for Complexity Band 1 (Figure 3).

Med. # 25136 , QURESHI MARY , Patient no.: 518032, for Tue, 25/08/2020 10:40 (TRN - Training Day Ward) Fluorouracil 50 mg/mL Accord Solution for injection/infusion 4200mg q.s. to 115mL NaCl 0.9%, SV2.5 Infusor 120mL elastomeric, by intravenous infusion			
Vehicle q.s. to 31mL NaCl 0.9% from			
1 pc. 50mL Freeflex bag non-PVC Fresenius Kabi 👢	Lot #:		
Empty container			
1 pc. SV2.5 Infusor 120mL elastomeric 🗜 Lot #:			
Additional articles and services			
1 pc. Complexity Band 1	Lot #: 2 IGNORE THIS BAND, expiring on 31/12/2099		
1 pc. Complexity Band 5	Lot #: 1 USE THIS BAND, expiring on 31/12/2098		

Figure 3: User selects appropriate lots for both Complexity Bands

6. Adding or editing a Complexity Band

It is possible to add Complexity Bands in the pharmacist verification screens, or to edit Complexity Bands which have been pulled through from the NCIS regimen. This functionality could be used if the local hospital wished to assign a different Complexity Band, on a case-by-case basis, to that which has been pre-entered in the NCIS drug file and/or NCIS regimen, or if a medication has been added as an ad-hoc planned medication to a therapy plan.

To add a Complexity Band, click on *Insert services/additional articles* within the pharmacist verification screen and add the appropriate Complexity Band and quantity (=1), then click add.

3	Prescribed services and additional articles	X
Prescribed services and additional articles		
Prod. no.:	Des.: Complexity Band 4	r∳.
		Add Cancel
No. Prod. no.	Designation	

Figure 4: Adding a Complexity Band at pharmacist verification

7. Reporting on complexity bands in NCIS

NCIS.Med provides a number of reporting options. The Cost Centre Accounting report provides a flexible reporting solution, which could be used to report on Complexity Bands within a defined time period. This report may be previewed and printed in Cato, or alternatively it can be exported in HTML or CSV formats.

The below example from the Training Environment shows how the Cost Centre Accounting report can be used to retrieve information on Complexity Bands, on the proviso that the lots for Complexity Bands have been correctly selected within the parts list.

Figure 5 shows the fields that were ticked to retrieve the information shown in *Figure 6*. The field *Display pharmaceutical services and products* should be ticked to show the Complexity Bands. The report can be filtered to include main medications only, and ticking *Pieces*, displays the numbers of each Complexity Band used within the time period.

Cost center accounting			
Period • Dispense date / Preparation date • Date of administration Period: Last month • (from 01/07/2022 • to 31/07/2022 •) Breakdown Center / unit • Display individual medications: List • • Display individual medications: List • • •	Calculation options Consider / calculate losses Preparation flat rate Add sales tax/VAT Can mg/mL (ignore overfill)		
Limitation (No filter condition) Preparation site: TRAIN Display vehicle Display empty containers Display medical services Display medical services and products Display pharmaceutical services and products	Medication filter Main medications Co-medications Infusion solutions TPN medications Prepared and dispensed		
	Column options mg / mL Share of total consumption Pieces Display numbers Costs Display case numbers Loss in separate column Display UIDs Line total Without lot numbers v Display manufacturer Display SSN		

Figure 5: Sample Cost Centre Accounting report for reporting on Complexity Bands

Cost center accounting: Dispense date / Preparation date Training Hospital TRN - Training Consultant Med. no. 144387: 650 mg Fluorouracil (out-sourced) - Bolus by intra Med. no. 144876: 1000 mg Endoxana 20 mg/mL Powder for solution Med. no. 146074: Oxaliplatin IV Infusion (DB) in 500 mL Glucose 59 Med. no. 146108: Oxaliplatin IV Infusion (DB) in 500 mL Glucose 59 Med. no. 146112: 150 mg Oxaliplatin 5 mg/mL Accord Concentrate Med. no. 146710: Oxaliplatin IV Infusion (DB) in 500 mL Glucose 59 Med. no. 14710: Oxaliplatin IV Infusion (DB) in 500 mL Glucose 59 Med. no. 147286: 750 mg Fluorouracil 25 mg/mL Hospira Solution f	e from 01/07/2022 to 3 avenous injection over 30 n for injection in 250mL Na % (Division: 1 x 150mg) by for solution for infusion in 6 (Division: 1 x 150mg) by for injection/infusion Bolus	nin GI 0.9% 250 mL bag Viaflo - No Overfi y intravenous infusion over 120 min y intravenous infusion over 120 min pomL Glucose 5% 500 mL bag Viaflo y intravenous infusion over 120 min by intravenous injection over 30 min	II- non-PVC Baxt
		Consumption	
Additional article/service	UP	Piece(s)	
Complexity Band 0	0.00	4.00	
Complexity Band 1	0.00	1.00	
Complexity Band 2	0.00	1.00	
Complexity Band 3	0.00	1.00	I

Figure 6: Sample report generated based on the parameters ticked in Figure 5