## (Cytotoxic Preparations and Pharmaceutical Care Clerkship in Oncologic Patients)

- Solid tumor
  - Breast cancer
- Lung cancerColon cancer
- Hematologic malignancies

  . . Lymphoma

  . . Leukemia

- Hematologic toxicity: neutropenic fever Gastrointestinal toxicities: mucositis, nausea, vomiting, constipation, diarrhea
- Local reactions: extravasation, thrombophlebitis
- Specific adverse drug reactions: cardiotoxicity, neurotoxicity, nephrotoxicity
- Pain management

Safe handling of cytotoxic drugs

(Good aseptic techniques) biological safety cabinet

-	( )	
-		
-		
_		
-		
1		
-		
-		
-	/	
-		
-		
-		
	/ *	
-	/	
-		
-		
-		

<u> </u>	
/ / *	
-   -	
- (journal club)	
,	
/ / *	
-	
- (academic in-service)	
-	
<i> </i>	
-	
l l	
. *	

```
(-/,/)
             /)
                        (Formal cases presentation)/
                       (Academic in-service)
                              (Journal club)
                                  protocol
formal case presentation
                                  CC, HPI, PMH, FH, SH, ALL, MH, PE, Lab
 Hospital course
```

			*		
	(patient care round, ward round, or pharmacy round)				
	(		/ *		
	)				
	(		1	- / - /	
	)		1	- /	
•			1		
	(discharge counseling)				
	(case discussion)**	<u>&gt;</u>	/		
	(formal case presentation)/	<u>&gt;</u>		- /	
				- /	
				- /	
				,	
				- /	
		>	<i>(</i> )	- /	
	(academic in-service)		( )	_	
	(journal club)	<u>&gt;</u>		- /	
	ν ,			- /	
				- /	

\* case discussion

	/		
		/ *	
	/ !! !	/ *	
•	(patient care round, ward round		
	pharmacy round)	/ *	
•		/	
	,		
	(	/	
	)		
		/	
	(discharge counceling)		
	(discharge counseling)		
		<u>&gt;</u> /	
,	(case discussion)**		
	(formal case presentation)/	<u>&gt;</u>	
	/	> ( )	
	(academic in-service)		
•	(journal club)	<u>&gt;</u>	
	,		
	/		••••••
•			
			•••••

••••••

- - /

			1	_	
<i>/</i>		•••••••••••••••••••••••••••••••••••••••	•••••		
				/	
	(x)		١		/
			,		
	/				
	1				
	/				
	/				
,					
1				1	

- - /

1 ..... ••••• ••••• x )/ 1 ..... .....

•••••

-- /

1	•••				•••••	••••••
	•••••	••••••	•••••	•••••	••••••	•••••
					1	
			/		_	
		<b>(1)</b>				,
		(x)		)		/
		/	1			
		/	1			
		1				
			·			
		1	/			
		1	/			

N/A N/A (Aseptic techniques) biological safety cabinet x )/ (protocol) (subjective & objective data)

				N	I/A			N/A	
					.,,,			, , .	
(Indication, Efficacy, Safety, Adherence, Cost)									
• •									
/									
,							1		
• •									
• •									
( x )/		I	ı				1		
: pharmacist note,									
:									
. 1 1									
( x )/									
( x )/									
( ^ )									

1		
		••••••
	(	)

1			•••••	•••••		•••••
	•••••	••••••	•••••	•••••	••••••	•••••
		(x)				1
		(		)		
		/				/
		(critica	al point)			
		/			/	
		/				
		/				

<i>/</i>	•••••	•••••	•••
	••••	•••••	••••
			NI/A
			N/A
. CC, HPI, PMH, FH, SH, ALL, MH, PE, Lab	T		
. GG, TIFT, FTVIIT, TTT, STT, ALL, IVIIT, FL, LAD			
( x.)/			
•			
. /			
•			
(subjective & objective data)			
•			
(IESAC)			
•			
• •			
• •	<del>                                     </del>		
	$\vdash$		<del>                                     </del>
( x )/	-		
•			
•			
( × V			
( x.)/	<u> </u>		
•	T		
•	++	+	
·			
( x.)/		لــــــــــــــــــــــــــــــــــــــ	

			1
	/ Pharm D.		
	(	x . )/	
•			
	(	x )/	
	( x )/		
1			
	(	)	

	/			•••••	•••••	••
••••	•••••	••••••	••••••	•••••	•••••	
		(x)				/
		(		)		·
	<u> </u>	T				
		1				
		,				
		/				
		/				
		/				
		,				
		/				

			N/A
. /			
1			
•			
/ (drop out)			
• •			
-			
<del>-</del>			
<del>-</del>			
• •			
• •			
(outcome variables & outcome			
measurement)			
· -			
-			
-			
- /			
. /			
1			
•			
•			
•			

					 -	<u>/</u>
						N/A
. :						
•			1	T		
Pharm D.			,			
•						
		x/ )/				
	(	X/ <b>)</b> /				
1			 	 		

.....

1		•••••	•••••	•••••	••••	
********		•••••	•••••	•••••	••••	
						N/A
•						
•						
•						
·						
•						
•						
•						
•						
•		<u> </u>				
•						
•	:					
•						
Ph	arm D.					
•						
	( x)/					
	·	_				
1						
•						
•••••		,		•••••	•••	
	()					

1		••••	•••••	•••••	•••••	•••
•••••		••••	••••	••••	•••••	•••
						N/A
					Ш	IV/
•						
•					$\vdash$	
•					Ш	
•						
•	/					_
•						
	/					
						+
•						
•						$\Box$
•						
					$\vdash \vdash$	+
•					$\vdash \vdash$	-
	:					

|--|

					N/A
		,			•
		/			
Pharm D.					
·					
•					
(	( x )/				
/			 	 	
	(	)			

(demo	graphic of requestor)			
			E-mail a	address
9 9 9	q q	1	<b>Ч</b>	
q q q	(р	atient-speci q q	fic question)	
	a			
ଧ ପ ପ (reque	/ web site / web board est) (initial question)	q q e-mai q .	q I	
	(background ir	nformation)		
	(ultim	ate question	n)	

(classification of the ultimate question)

	1 ,
q General product information	q Adverse effects
Availability of dosage forms	q Compounding
q Dietary supplement	q Dosage recommendations
	(general and organ impairment)
q Drug interactions	q Drug-laboratory interference
q Drugs in pregnancy and in	q Foreign drug identification
lactation	
q Geriatric dosage	q Identification of product by
recommendations	description of dosage form
q Investigational drug information	q Compatibility / stability
q Method / rate of administration	q Pediatric dosage
	recommendations
q Pharmacokinetics	q Pharmacology

## (search strategy and conduct on systematic search)\*

•	
•	

•	
	4 1
	(reywords)
	(reywords)

.....

.

		•
	q q q e-mail q web site / web board q	
	(Follow up and follow through)	
		•••
	: :	•••
		•
		•
	/	
: –	systematic approach Malone, P.M., Kier, K.L., and Stanovich, J.E. (Eds). Drug Information: a guide for pharmacists, Third Edition. Singapore: McGraw Hill, Medical Publishing Division.	V-

\*

\_

. )

-	
- - -	
- - -	
- / - /	
-	
- -	
- - -	
- / - /	
- / - /	
- / - /	
- / - /	
-	
- / - /	