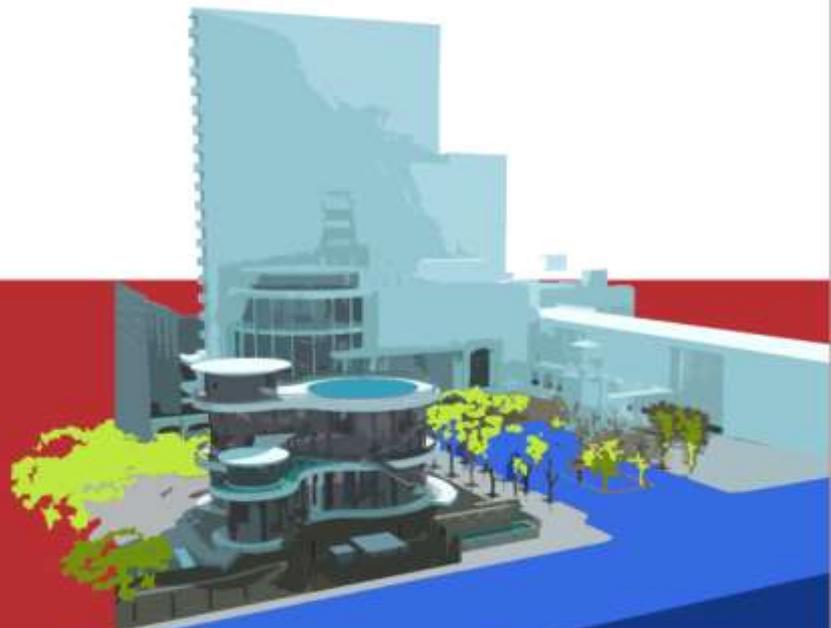


# 臺北醫學大學 聯合人體生物資料庫 檢體管理系統

劉韻如 主任



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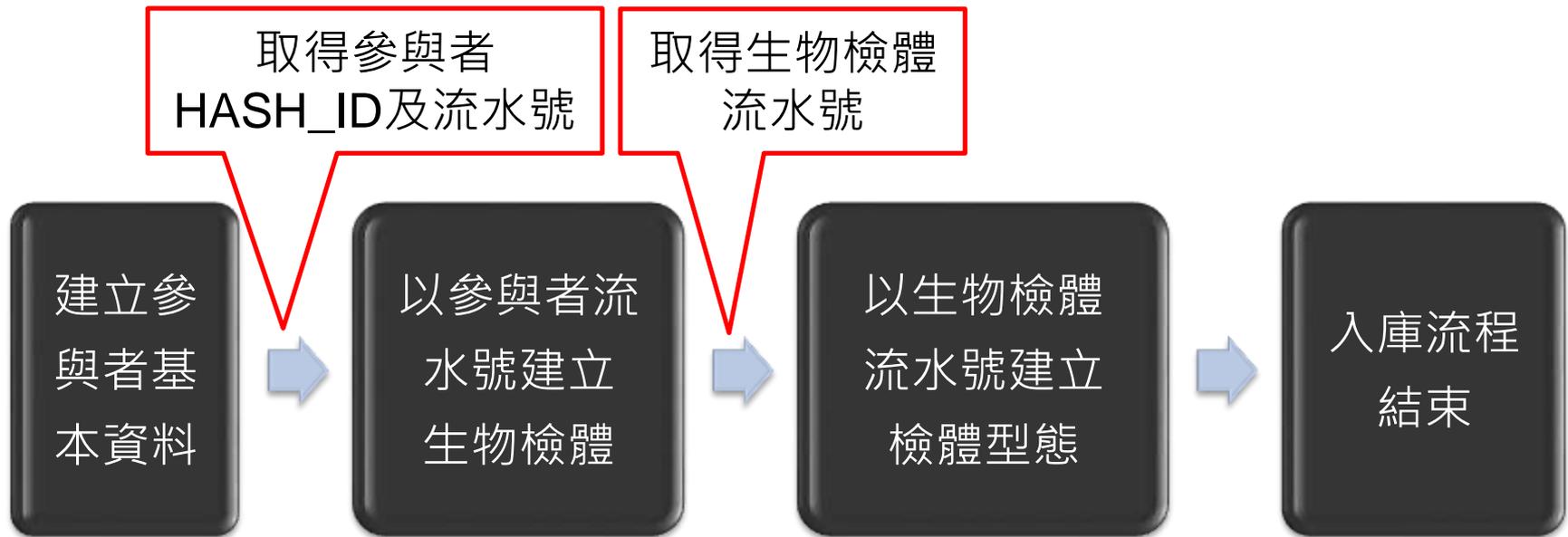
# Outline

## 檢體管理系統主要操作功能：

- 新增帳號及權限設定
- 入庫作業流程 (檢體採集獎勵)
- 病理報告管理
- 品質管理 (QA/QC)
- 統計報表 (資料查詢、醫師獎勵點數查詢)
- 出庫作業流程

# 生物資料庫 入庫 流程

臺北醫學大學 聯合人體生物資料庫入庫流程：



# 檢體管理系統 入庫流程 - 參與者資訊

## • 參與者基本資料及流水號建立

新增病患資料

* Patient ID	Patient ID	參與者ID登打
* Confirm Patient ID	Confirm Patient ID	參與者ID再確認，不可複製/貼上
* RPN#	E00011743	流水號由系統自動產生
* 出生日期		
* 性別		
* 醫院		
註冊狀態	尚未審核	資料確認後選擇 已審核 儲存送出

確定 取消

↓

Patient ID	RPN#	年齡	性別	醫院	建立時間	測試機畫面
e7515312697debeadfe55eb59e7e41d80a630f61	E00011742	0	M	TMUH	2020-09-04	Q / ✕
25f2ef229722c6071389673e72e8c9b1e912f1d6	E00011737	0	F	TMUH	2020-06-02	Q / ✕

可藉由流水號連結繼續導入新增檢體資訊

# 檢體管理系統 入庫流程 - 檢體資訊

**Patient INFO**

\* RPN#

\* Patient ID

**Doctor INFO**

\* Doctor ID

**Sample INFO**

\* Sample ID

IRB Number

\* Keep On Using

\* Transfer Info

\* Doctor Keep

\* Consent Date

\* Sample Part

ICD 9 Code

\* Objective

流水號可從參與者資料維護  
點選代入或右側按鈕選取

與流水號相互呼應，系統自動代出並鎖定

檢體流水號，由系統給予

依參與者同意書上的  
參與者意願選取

\* Hospital

SpecificSite

Fluids Out Time

Tissue Out Time

Get Time

Arrival Time

Leave Time

Inventory Time

Remark

註冊狀態

Sample ID	RPN#	Doctor ID	Keep on Using	Transfer Info	Doctor Keep	Consent Date	Sample Part	ICD 9 Code	Objective	Hospital	Inventory
S00011732	E00011742	DN00231 測試醫師	同意繼續使用檢體、資料與資訊	不同意 (本庫負責銷毀您的檢體、資料與資訊)	Yes	2020-09-04	Colon		colon cancer	TMUH	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: right; margin: 0;"><b>測試機畫面</b></p> <p>Batch ID      Quantity</p> <p>S00011732.00013</p> </div>



# 檢體管理系統 入庫流程 - 庫存位置

測試機畫面

Inventory Type: Original

Sample ID: S00011731

Sample Type: [Dropdown]

Sub Sample Type: [Dropdown]

Normal Or Tumor: [Dropdown]

Quantity: [Input]

Quantity Unit: [Dropdown]

Location: [Input]

Annotation: [Input]

Concentration: [Input]

Concentration Unit: [Dropdown]

Technologist: [Input]

Volume: [Input]

Volume Unit: [Dropdown]

Remark: [Input]

登錄時間: [Input]

Buttons: 確定, 取消

檢體存放位置選取，點選按鈕後，代入存放空間畫面

新增檢體庫存資料

location: TMU:TMU Freezer02 Shelf02 Rack01 Box01

	1	2	3	4	5	6	7	8	9
A	S00002737.0002	S00002943.0002	S00004812.0002	S00005079.0002	S00002749.0002	S00002750.0002	S00002752.0002	S00002753.0002	S00002756.0002
B	S00002750.0002	S00002796.0002	S00002898.0002	S00002909.0002	S00002910.0002	S00002916.0002	S00002931.0002	S00002939.0003	S00002950.0002
C	S00002939.0002	S00002941.0002	S00002991.0002	S00003023.0002	S00004960.0002	S00004968.0002	S00004970.0002	S00004972.0002	S00004981.0002
D	S00004973.0002	S00004975.0002	S00005158.0002	S00006746.0001	S00006756.0001	S00008942.0001	S00008947.0001	S00008974.0001	S00008976.0001
E	S00009128.0001	S00009249.0001	S00009255.0001	S00009273.0001	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
F	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
I	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

color  Batch ID  Patient ID

show  Batch ID  Batch ID

Buttons: 確定, 取消

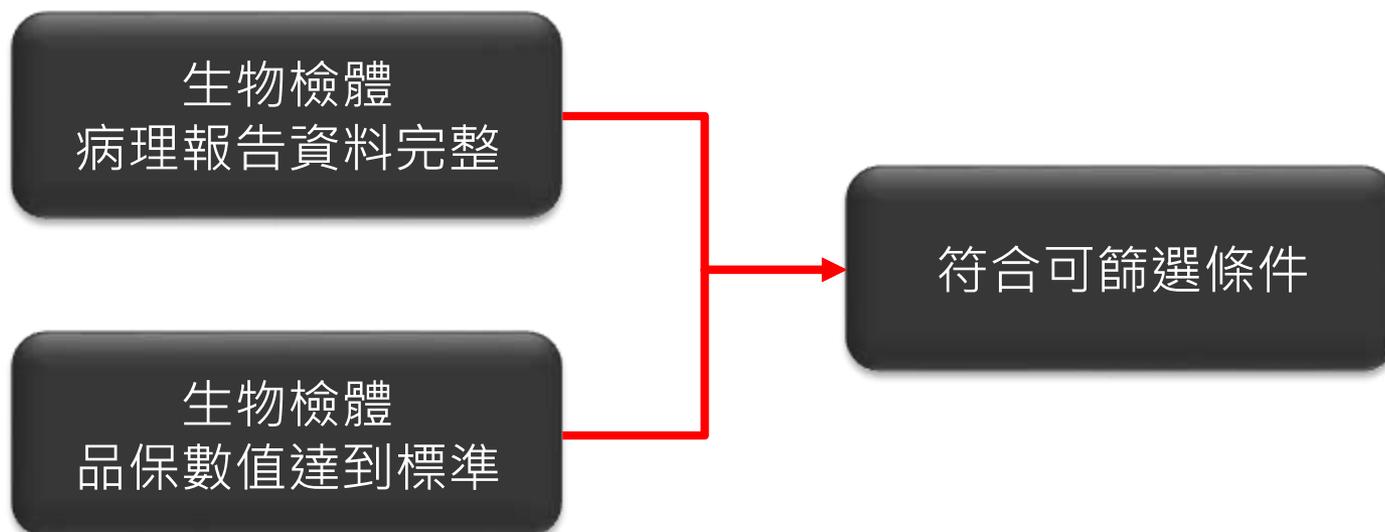
系統會依該次入庫存放管數，預設勾選存放位置，技術員也可依狀況自行決定

Sample ID	Batch ID	Sample Type	Sub Sample Type	Inventory Type	RPN#	Annotation	Tubes	Quantity	Normal Or Tumor	Parent Batch ID	Parent Tube ID
S00011731	S00011731.0001	Blood	Serum	Original	E00011737		1 A01 TMU:TMU:Freezer03:Shelf04:Rack03:Box20 2 B01 TMU:TMU:Freezer03:Shelf04:Rack03:Box20 3 B02 TMU:TMU:Freezer03:Shelf04:Rack03:Box20 4 B03 TMU:TMU:Freezer03:Shelf04:Rack03:Box20	4	N/A		

\* 醫師保留管

# 病理報告與品質管理

- 臺北醫學大學 聯合人體生物資料庫，手術入庫個案應有相對應之**病理報告**及生物檢體**品保數值**達到標準，才會對於計畫案之需求條件列入篩選。



# 檢體管理系統 病理報告

新增病理報告資料

Patient ID: 2502e228f22c6071389673e72e9c6b1e912f1d6

Organ: Organ

Diagnosis: Diagnosis

NOTE: NOTE

Histologic Type: Histologic Type

Histologic Grade: Histologic Grade

pT: pT

pN: pN

pM: pM

Stage: Stage

Estrogen Receptor: Estrogen Receptor

Progesterone Receptor: Progesterone Receptor

HER2: HER2

Ki67: Ki67

MMR: MMR

新增 取消

1. 本庫定期向臺北醫學大學數據處申請參與者病理報告。
2. 本庫向數據處申請病理報告及臨床資料，皆是以HASH\_ID進行，過程中不須解密。
3. 系統上所有欄位(包括病理報告)皆可當成搜尋條件，藉此搜尋符合計畫案之需求的生物檢體。

Organ	Diagnosis	NOTE	Histologic Type	Histologic Grade	pT	pN	pM	Stage	Estrogen Receptor	Progesterone Receptor	HER2	Ki67	MMR
Breast, right	invasive ductal carcinoma	ER : 50% ; PR : 90%	Invasive mammary carcinoma of no special type (ductal, not otherwise specified)	Grade 2: scores of 6 or 7	pT1c: Tumor >10 mm but <=20 mm in greatest dimension	pN0 (i-): No regional lymph node metastases histologically, negative IHC	pMx: Not applicable	Stage IA (pT1c N0 Mx)	Positive	Positive	2+	40%	

# 生物檢體 品保 / 品管



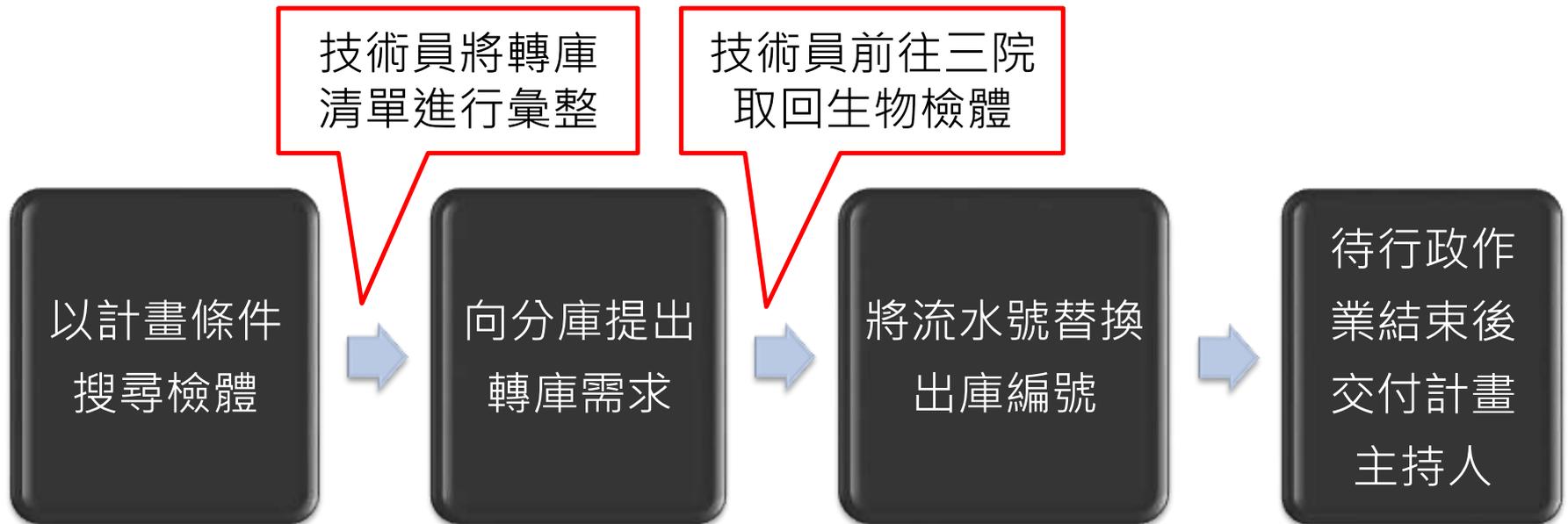
Processed By	Label Correct	Position Correct	Tissue Quality	Matched Diagnosis	Technologist	Pathologist	Tumor Cell(%)
	Yes	Yes	Good	Yes	李昶珊	方嘉郎	60
蔡賢竹	Yes	Yes	Fair	Yes	顏紹涵	方嘉郎	50
蔡賢竹	Yes	Yes	Fair	Yes	顏紹涵	方嘉郎	60
蔡賢竹	Yes	Yes	Good	Yes	顏紹涵	方嘉郎	15



理科醫師判讀

# 生物資料庫 出庫 流程

- 臺北醫學大學 聯合人體生物資料庫出庫流程：



# 檢體管理系統 資料查詢

- 檢體管理系統上所有欄位皆可當作查詢條件，配合運算元( $\geq$ ,  $\leq$ ,  $=$ ,  $\neq$ , in, or, and ...) 查詢出所需的資料。
- 查詢欄位可依所需條件增加。
- 可將查詢結果匯出成EXCEL檔案；亦可以純文字形式儲存表格資料(CSV格式)，以最終藉由上傳病理資料的整合方式改進系統。

額外條件

增加	AND	Age	>=	20	帶入	刪除
	AND	Age	<=	60	帶入	刪除
	AND	Sex	=	F	帶入	刪除
	AND	Pathology Report. Organ	like	colon	帶入	刪除

查詢 帶出全部資料

查詢結果以EXCEL之形式匯出，再依據整合平台系統的分層，統計後人工登錄

Organ	NOTE	Histologic Type	Grade	pT	pN	pM	Stage	MMR
Intestine, large, colon, RS	The mutation of codon 12 or 13 of KRAS exo	Adenocarcinoma	G2: Moc	pT3: T	pN1b: I	pMx	pStage IIIB	
Intestine, large, S-colon	The mutation of codon 12 or 13 of KRAS exo	Adenocarcinoma	G1: We	pT2: T	pN0: N	pMx	pStage I	
Intestine, large, colon, des	The mutation of BRAF is Detected. (V600E/E	Adenocarcinoma	G2 (Moc	pT4a:	pN2b: I	pMx	pStage IIIC	No loss of nuclear expression of MMR proteins:
Intestine, large, colon, asc		Adenocarcinoma	G2: Moc	pT3: T	pN0: N	pMx	pStage IIA	Loss of nuclear expression of MLH1 and PMS2
Intestine, large, colon, tra		Adenocarcinoma	G2: Moc	pT3: T	pN0: N	pMx	pStage IIA	Loss of nuclear expression of MLH1 and PMS2
Intestine, large, sigmoid c		Adenocarcinoma	G2: Moc	pT1: T	pN0: N	pMx	pStage I	No loss of nuclear expression of MMR proteins:
Intestine, large, colon, asc	Omentum, omentectomy, carcinoma, involer	Adenocarcinoma	G3: Poc	pT4a:	pN2a: I	pM1c: I	pStage IVC	No loss of nuclear expression of MMR proteins:
Intestine, large, colon, tra	Intestine, large, rectum, laparoscopic low ant	Adenocarcinoma	G2 (Moc	mpT3:	mpN1b	pMx	pStage IIIB	No loss of nuclear expression of MMR proteins:
Intestine, large, colon, asc		Mucinous adenoc	G1 (We	pT3: T	pN1a: I	pMx	pStage IIIB	Loss of nuclear expression of MLH1 and PMS2
Intestine, large, colon, sigi	adenocarcinoma, removed at previous endos	Adenocarcinoma	Grade 1	pT1: T	pN0: N	pMx: N	pStage I	
Intestine, large, colon, sigi	The mutation of codon 12 or 13 of KRAS exo	Adenocarcinoma	G1: We	pT4a:	pN2a: I	pMx	pStage IIIC	
Intestine, large, rectosigm	Liver and gallbladder, S3 partial hepatectomy	Adenocarcinoma	Grade 2	pT2: T	pN2a: I	pM1a: I	pStage IVA	

額外條件	增加																
AND	▼	▼	Sample Part	▼	=	▼	Breast	▼	帶入	刪除							
AND	▼	▼	Inventory. Sample Type	▼	=	▼	Blood	▼	帶入	刪除							
AND	▼	▼	Pathology Report. HER2	▼	IN	▼	1+,2+	▼	帶入	刪除							

## 查詢結果以系統畫面呈現

Pathology Report																
Record Date	Organ	Diagnosis	NOTE	Histologic Type	Histologic Grade	pT	pN	pM	Stage	Estrogen Receptor	Progesterone Receptor	HER2	Ki67	MMR	User ID	
2020-07-10	Breast, left	invasive breast carcinoma of no special type (IBC-NST)		Invasive carcinoma of no special type (ductal; not otherwise specified)	Grade 1: scores 5	pT1c: Tumor >10 mm but <=20 mm in greatest dimension	pN0(sn): No regional lymph node metastasis identified histologically	pMx	Stage IA; pT1c; N0(sn)	Positive	Positive	1+	5%		劉韻如	
2020-07-14	Breast, left	invasive mucinous carcinoma, grade 1, with extensive solid papillary ductal carcinoma in situ		Invasive mucinous carcinoma	Grade 1 (score of 5)	pT1b: Tumor >5 mm but <=10 mm in greatest dimension	pN0(sn): No regional lymph node metastasis identified histologically	pMx: Not applicable	pStage IA, pT1bN0(sn)MX	Positive	Positive	1+	10%		楊嘉麟	
2020-04-13	Breast, right	fibrocystic change with focal invasive ductal carcinoma				ypT0: No evidence of primary tumor	ypN0(sn): No regional lymph node metastasis identified histologically	pMx: Not applicable		Negative	Negative	1+	80%		楊嘉麟	



# 困難及建議

- **遭遇困難：**

- 目前系統鍵入之資訊於後續運作幫助極低，卻需耗費大量人力統計及輸入。
- 後續申請案媒合仍需以電話及信件向各生物資料庫反覆詢問，非長久之計。
- 申請條件設定不夠清楚，常需平台與機構間反覆確認。

- **建議：**

- 未來平台資訊系統可直接匯入個案資訊，如年齡、性別、病理報告等。
- 與各機構確認匯入資訊之欄位，建議以多數機構能提供之欄位為準。
- 建議平臺增加搜尋功能，以利申請案媒合及研究者查詢。
- 除資訊系統外，申請暨審查系統也建議盡速建立，並與機構生物資料庫之審查(系統)可以橋接。