クリミア・コンゴ出血熱（CCHF）診断・治療アルゴリズム

旅行者で発熱（最高体温38℃以上）あり
インフルエンザ様症状、発赤、出血傾向

［渡航地に関する情報］

- ○アフリカ
- ○東ヨーロッパ（ギリシャ、セルビア・モンテネグロ）
- ○中近東（トルコ、イラク、イラン、UAE）
- ○ロシア（特に南部連邦管区）
- ○中央アジア（アフガニスタン、タジキスタン、パキスタン、ウズベキスタン）
- ○中国（新疆ウイグル自治区）

潜伏期 ＜2日	潜伏期 2–9日	潜伏期 ＞9日
感染性下痢症、インフルエンザなどを考慮して鑑別診断		マラリア、急性ウイルス性肝炎などを考慮して鑑別診断

［最初に行うべき検査］ 自動化機器で測定可だが、標準予防策を遵守

●血液塗抹標本	薄層塗抹標本（メタノール固定）、迅速診断キットでもよい
●血算	白血球および血小板減少の頻度が高い
●生化学	腎機能、肝機能など
●血液培養	
●胸部X線	

マラリアが陰性

マラリアが陽性

クリミア・コンゴ出血熱の治療

- ●リバビリンを初回量2g、以後1g（6時間毎）を4日間、更に1回0.5gに減量し、6日間（計10日間）使用する。

［注］早期の使用に有効性がみとめられている（保険適応外）。

検体（患者血液）の搬送方法

- ●世界保健機関によるカテゴリーA規格適合容器を使用（外装）
- ●血清容器10mlを使用（内装）
- ●血清は分離しないでよい

全身状態不良

- ○原則入院（トイレ、シャワーが専用となる個室を利用）
- ○接触予防策を実施
- ○第一種感染症指定医療機関への紹介を考慮
  - 専門家に相談（必要時、患者血清を適切な手段で国立感染症研究所ウイルス第一部第一室に送付）

確定診断がつかず、マラリア検査が3回陰性かつ全身状態の悪化

専門家に相談のうえ、

- ○疑似症患者として最寄りの保健所に届出
- ○病原体検査を実施（行政検査：保健所を通じて患者血清を提出）
- ○知事の入院勧告による転院

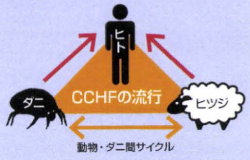
全身状態比較的良好

患者状態の観察
外来管理でもよい

他疾患の確定診断

特異的な治療を実施

クリミア・コンゴ出血熱ウイルスのヒトへの感染経路



クリミア・コンゴ出血熱の感染リスク因子

- ●ダニに咬まれる
- ●ヒツジなどの家畜との接触
- ●発熱患者との接触
- ●流行期3月から6月（アフリカを除く）

クリミア・コンゴ出血熱の病原診断

- ●急性期（発症から10日未満）
  ウイルス分離、RT-PCR、抗原検出ELISA
- ●回復期（発症から10日以降）
  IgG抗体、IgM抗体の検出

エボラ出血熱／マールブルグ出血熱診断・治療アルゴリズム

旅行者で発熱（最高体温38℃以上）あり
インフルエンザ様症状、発赤、出血傾向

［渡航地に関する情報］

- ○アフリカ（コンゴ民主共和国、ウガンダ、ケニア、タンザニア、ザンビア、ジンバブエ、アンゴラ等の熱帯雨林地域）

潜伏期 ＜2日	潜伏期 2–21日	潜伏期 ＞21日
感染性下痢症、インフルエンザなどを考慮して鑑別診断		マラリア、急性ウイルス性肝炎などを考慮して鑑別診断

［最初に行うべき検査］ 自動化機器で測定可だが、標準予防策を遵守

●血液塗抹標本	薄層塗抹標本（メタノール固定）、迅速診断キットでもよい
●血算	白血球および血小板減少の頻度が高い
●生化学	腎機能、肝機能など
●血液培養	
●胸部X線	

マラリアが陰性

マラリアが陽性

エボラ出血熱／マールブルグ出血熱の治療

- ●対症療法のみ

検体（患者血液）の搬送方法

- ●世界保健機関によるカテゴリーA規格適合容器を使用（外装）
- ●血清容器10mlを使用（内装）
- ●血清は分離しないでよい

全身状態不良

- ○原則入院（トイレ、シャワーが専用となる個室を利用）
- ○接触予防策を実施
- ○第一種感染症指定医療機関への紹介を考慮
  - 専門家に相談（必要時、患者血清を適切な手段で国立感染症研究所ウイルス第一部第一室に送付）

確定診断がつかず、マラリア検査が3回陰性かつ全身状態の悪化

専門家に相談のうえ、

- ○疑似症患者として最寄りの保健所に届出
- ○病原体検査を実施（行政検査：保健所を通じて患者血清を提出）
- ○知事の入院勧告による転院

全身状態比較的良好

患者状態の観察
外来管理でもよい

他疾患の確定診断

特異的な治療を実施

マールブルグ出血熱の輸入感染例

発生国	年	感染国	特記事項
●ドイツ ●旧ユーゴスラビア	1967	ウガンダ	ウガンダから輸入されたアフリカミドリザルが感染源
●アメリカ	2008	ウガンダ	洞窟に入った
●オランダ	2008	ウガンダ	洞窟に入った

エボラ出血熱／マールブルグ出血熱の感染リスク因子

- ●洞窟や炭鉱に入る
- ●動物（サルやゴリラ等の霊長類）との接触
- ●発熱患者との接触
- ●コウモリの生息する環境での生活

エボラ出血熱／マールブルグ出血熱の病原診断

- ●急性期（発症から10日未満）
  ウイルス分離、RT-PCR、抗原検出ELISA
- ●回復期（発症から10日以降）
  IgG抗体、IgM抗体の検出

資　料

Rural African Risk Assessment – Triage form for Walk-in Clinic

Affix name label: Triage Nurse:
Date :

1. Has the patient been to an endemic country in the last month?
Endemic Countries are : **Angola, , Burkina Faso, Guinea (Conakry), Sierra Leone, Liberia, Cote d'Ivoire (Ivory Coast), Ghana, Togo, Benin, Nigeria, Mali, Burkina Faso, Niger, Central African Republic, Cameroon, Gabon, Democratic Republic of Congo, Sudan, Uganda, Chad, Congo, Equatorial Guinea.** (Please circle which country/countries)

YES ☐ NO ☐

2. Does the patient have an illness with a fever of **less than 21 days'** duration that started either while s/he was in the endemic country, or **within 21 days** of leaving an endemic country?

YES ☐ NO ☐ (Illness started **MORE** than 21 days after leaving endemic country) If **NO,** risk is minimum, proceed with triage.

3. Has the patient:

> travelled outside any major cities? YES☐ NO☐

> been working in the health care profession? YES☐ NO☐

> had contact with sick people/been to healthcare facilities? YES☐ NO☐

> been in contact with rats/wild animals or their excreta? YES☐ NO☐

If the answer to any part of question 3 is **YES**, or there is another reason to suspect VHF, the **DO NOT** take any specimens from the patient, and ask the SHO (Blp 5845) to assess further and if necessary follow the VHF ICP guidelines. This does not necessarily mean that the patient is at risk of VHF, simply that further assessment is required. If all parts of question 3 is **NO**, then document **"Minimal risk of VHF"** and continue triage as normal.

NOTES:

ACTION:

> Discussed with doctor? **YES** ☐ **NO** ☐

> If YES, level seniority: **SHO**☐ **SpR** ☐ **Con** ☐

> Triage continued as normal after discussion **YES** ☐ **NO** ☐

University College London Hospitals NHS
NHS Foundation Trust

INTEGRATED CARE PATHWAY

Patients Assessed as At Risk of Viral Haemorrhagic Fever Directorate of Infection

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Confidential Patient Information

Patient Name (or attach ID Label)	
Hospital Number	
Date of Birth	
Male / Female	
Address	
General Practitioner	
Assessment Date	
Arrival Time	
Triage Time	

Allergies (please write clearly)
LEVEL OF RISK (following VHF assessment)

Last updated: 20 September 2005

INFORMATION ABOUT THIS INTEGRATED CARE PATHWAY (ICP)

What is an ICP?
It is a multidisciplinary patient record developed using the best evidence to support the predicted pathway of the patient's care.
It aims to ensure that the care we offer is of the highest quality using the best evidence in an efficient way.

Who developed this pathway?
Multidisciplinary team consisting of:
Diana Lockwood, Charles Woodrow, Clare Culpin, Emma Aarons, Stephen Morris-Jones, William Newsholme, Andrew Ustianowski, Sarah Robinson, Fiona Sparkes, Martin Bruce, Geoff Scott.

How do I use this pathway?
This ICP is a guideline of the best-expected multidisciplinary care for a patient. However, remember that every patient is an individual. This ICP is NOT a substitute for your clinical judgement and expertise.

- Until the patient's VHF status is assessed as MINIMUM RISK, **ALL** the clinical medical and nursing care should be documented in this ICP rather than using the hospital in-patient continuation sheets. This includes all triage notes.
- Check that the Confidential Patient Information on the front page (page 1) has been completed.
- Complete the signature and initial box on page 3.
- Consider each action in the ICP (page 4 and then as directed) in turn.
- Decide if this action is appropriate for your patient.
- If yes, then carry out this action, record the time it was completed, and initial the relevant box.
- If you decide to do something other than the action set out in the ICP, then you must record a *'variance'*.
- *To record a variance you must write next to the activity concerned*
  - the time the variance occurred
  - what the variance was using the codes on the back of the pathway (page 17)
  - what action you did instead of that planned
  - initial the variance recording
- If more space is required to record the variance or additional notes, continue on the multidisciplinary note sheet using the appropriate operator code as a reference point.
- Note that the ICP indicates by operator code that certain actions may be appropriately delegated to a nurse
- **Always** use blue or black ink in filling out this record.
- If any other problems are identified during and after the assessment process, which are not reflected within this pathway, then a care plan should be appended to this document.

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Where should the ICP be kept following completion?
Medical Records

Who can I contact for more information?
For more information about VHF or ICPs please contact
Duncan Burton (Modern Matron, Directorate of Infection)

VHF ICP	AFFIX PATIENT ID LABEL HERE	Date	

Acceptable abbreviations for use in this pathway				
VHF	Viral Haemorrhagic Fever		P	Pulse
RAR	Rural African Risk		T	Temperature
HTD	Hospital for Tropical Diseases		BP	Blood Pressure
A/E	Accident & Emergency		RR	Respiratory rate
ICP	Integrated Care Pathway		MP	Malarial parasites
IV	Intravenous		FBC	Full Blood Count
OPA	Out Patient Appointment		Hb	Haemoglobin
CXR	Chest X-ray		Plt	Platelets
RUA	Routine Urinalysis		U&E	Urea & electrolytes
OC&P	Ova, Cysts & Parasites		LFT	Liver function tests
HT	Height		BC	Blood Culture
WT	Weight		MSU	Mid-Stream Urine Sample
ICM	Infection Control Manual		O2 SATS	Oxygen Saturations
N/A	Not applicable		S/N	Staff Nurse

ALL STAFF SIGNING FOR CARE IN THIS ICP MUST RECORD BELOW DETAILS OF THEIR FULL NAME, POSITION AND SAMPLE OF SIGNATURE AND INITIALS

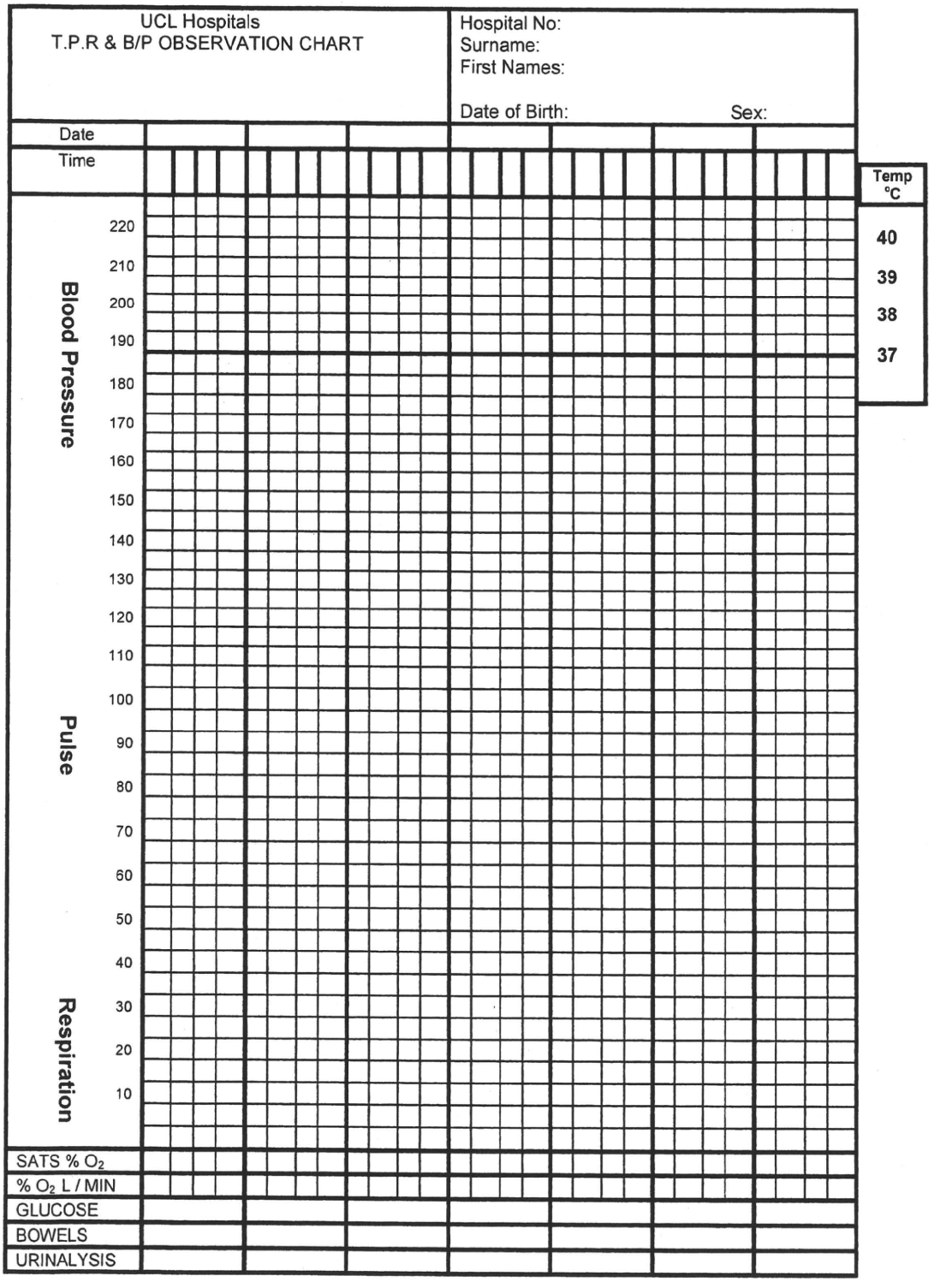
FULL NAME – Please Print	POSITION	SIGNATURE	INITIALS	Contact Number

VHF ICP		AFFIX PATIENT ID LABEL HERE		Date		
MULTI-PROFESSIONAL	Operator Code	ACTION	Time	Sign	Reason for variance & action taken (use codes)	Sign for variance
	N1	African Risk assessed in Triage • RAR in HTD O/P or • poster in A/E (page 17)				
	N2	Isolate patient: **Source Isolation** • patient to stay in side room • all entering s/room to wear gloves and apron				
	N3	Record vital observations: T, P, RR & BP (page 5)				
	N4/M1	Inform HTD team via Switch (09.00-21.00 SHO; 21.00-09.00 SpR)				
	M2	Assess clinical status and record on page 7				
	M3	VHF assessment completed (pages 7 – 9)				
	M4	Determine patient's initial risk status: **Minimum Risk** ☐ **Discontinue ICP** **Moderate Risk** ☐ **Continue ICP** **High Risk** ☐ **Continue ICP**				
	M5	If Moderate or High Risk: Initiate use of Personal Protection Equipment Level 1[1]				
	N5	Commence hospital contact record sheet (page 6)				
	M6	EDTA blood for malaria film AND Clotted sample for VHF virology **ONLY**[2]				
	DO NOT CANNULATE OR TAKE ANY OTHER SPECIMENS OF ANY SORT UNLESS SPECIFICALLY DIRECTED TO DO SO BY THE HTD SPR OR CONSULTANT [2]					
	M7	**Malaria screen POSITIVE**: • Discuss with HTD SpR and treat patient accordingly. • If now Minimum Risk: stop ICP, inform Parasitology and continue instead with conventional notes.				
	M8	**Malaria screen NEGATIVE**: • Discuss with HTD SpR • Continue with ICP **Minimum Risk** page 10 **Moderate Risk** page 11 **High Risk** page 12				

1. PPE Level 1: disposable body gown and gloves. Mask and visor should be worn if respiratory symptoms are present. Overshoes may be used if body fluid visibly contaminating environment.
2. If other blood samples have already been taken, these must be sent with the malaria bottle to Parasitology. Other investigations that may be appropriate include FBC, U&Es, LFTs, Blood cultures. Specimens must be clearly labelled as "Danger of Infection" and transported by medical staff in secure containers. The processing of these samples **MUST** be discussed with the relevant scientific staff.

ALL samples taken should be listed on page 13.

VHF ICP	AFFIX PATIENT ID LABEL HERE	Date	



Last updated: 20 September 2005

VHF ICP	AFFIX PATIENT ID LABEL HERE	Date	

LIST of HOSPITAL CONTACTS[3]	
Name and contact number	**Contact Details (when, where, length of contact etc)**
LIST of OTHER CONTACTS	

3. A contact is any person who has been caring for the patient or is likely to have come into contact with any body fluids from the patient, or who has been in close proximity of the patient for > 4 hours since onset of first symptoms.

VHF ICP	AFFIX PATIENT ID LABEL HERE	Date	

Viral Haemorrhagic Fever Risk Assessment Part 1	
Date when left endemic / risk area	
Date of first symptom	
Difference (days) i.e. minimum incubation period	

Symptoms & Signs (Circle if applicable)							
Fever	Headache	Myalgia	Pharyngitis	Diarrhoea	Vomiting	Retrosternal pain	Rash
Haema-temesis	Melaena	Nose Bleed/s	Other Bleed/s	Pulse > 90 bpm	BP systolic < 90mmHg	Resp Rate > 20 / min	Other

TRAVEL HISTORY			
Country / countries visited	**Urban / Rural give details**	**Date From**	**Date To**

	Yes	No
Outdoor / Risk activities? If yes, specify: _____	☐	☐
Contact with ill / deceased persons? If yes, specify: _____	☐	☐
Direct contact with animals? If yes, specify: _____	☐	☐

VHF ICP	AFFIX PATIENT ID LABEL HERE	Date	

Viral Haemorrhagic Fever Risk Assessment Part 2

Section 1

	Yes	No
Is the patient: • A laboratory **OR** healthcare worker in contact with samples from a known or suspected case of VHF within past 3 weeks	☐	☐
If **YES,** grade the patient as: **HIGH RISK**		
If **NO,** AND they have travelled: **GO TO SECTION 2**		

Section 2

Travel. See map (page 19), and discuss with the HTD SpR. Has the patient travelled:	Yes	No
• only from an African country *not* regarded as endemic or at risk for VHF (*i.e.* a country shown uncoloured on map, page 19)	☐	☐
OR		
• from an endemic/at risk area (coloured on map) BUT more than 21 days ago	☐	☐
OR		
• from an endemic/at risk area (coloured on map) within the previous 3 weeks, BUT from a major city (where the risk of VHF is considered negligible)?	☐	☐
If **YES** to any of these grade the patient as: **MINIMUM RISK** If **NO** to all: **GO TO SECTION 3**		

Section 3

Has the patient travelled:	Yes	No
• from a rural / small town area in a known VHF-endemic region within 21 days	☐	☐
OR		
• from a rural / small town area not known to be VHF-endemic, but believed to be at risk of VHF (shown as spotted on map, page 19), within 21 days	☐	☐
If **YES** to either of these, grade the patient as: **MODERATE RISK,** and **GO TO SECTION 4**		

Section 4

Is there:	Yes	No
• Organ failure and haemorrhage	☐	☐
OR		
• History of close contact >4hrs with a possible case in endemic area	☐	☐
OR		
• History of caring for a febrile person or contact with body fluids from such a person (particularly health-care staff from rural hospitals)	☐	☐
OR		
• History of any contact with confirmed cases (clinical / laboratory)	☐	☐
If **YES** to any of these, grade the patient as: **HIGH RISK**		

VHF ICP	AFFIX PATIENT ID LABEL HERE	Date	

INITIAL ASSESSED CATEGORY OF RISK (CIRCLE AS APPROPRIATE)
MINIMUM / MODERATE / HIGH

MALARIA PARASITES (CIRCLE AS APPROPRIATE)
PRESENT / ABSENT

REVISED ASSESSED CATEGORY OF RISK (CIRCLE AS APPROPRIATE)
MINIMUM / MODERATE / HIGH

IF MINIMUM RISK - Go to page 10 and discontinue ICP

IF MODERATE / HIGH RISK - CONTINUE ICP

NB. Consult Infection Control Manual or Microbiology SpR / Consultant for advice regarding spillages / decontamination / patient transport / waste disposal

	Yes	No
Was the patient ill on the flight to UK?	☐	☐
Were there stopovers / transfers? If yes, specify airport(s) _____ _____	☐	☐
Airline flight number(s): _____		
Arrival airport in UK: _____		
Date/time of arrival and flight number: _____		

VHF ICP	AFFIX PATIENT ID LABEL HERE	Date	

MINIMUM RISK

Code	ACTION	Time	Sign	Reason for variance & action taken (use codes)	Sign for variance
M9	Contact Tropical Disease SpR				
	SpR name: **Consultant name:**	**Any additional action(s) instructed:**			
ALL1	If Tropical Disease SpR / Consultant agrees with Minimum Risk designation then patient may be cared for using routine Infection Control precautions, and patient samples may be obtained, without restriction, as clinically indicated.				
N6	Arrange admission of patient to room on 8th floor Infection Ward				
ALL2	From this point onwards, routine nursing and medical notes can be used for documentation of the patient's care. This ICP document MUST however be incorporated into the patient's Medical Notes.				

DATE	TIME	MULTI-DISCIPLINARY NOTES	SIGNATURE

VHF ICP	AFFIX PATIENT ID LABEL HERE	Date	

MODERATE RISK

Code	ACTION	Time	Sign	Reason for variance & action taken (use codes)	Sign for variance
ALL3	**SAMPLES: APART FROM EDTA FOR A MALARIA FILM AND CLOTTED BLOOD, NO OTHER SAMPLES SHOULD BE TAKEN AT THIS STAGE UNLESS ON CONSULTANT ADVICE [4]**				
M10	Contact Tropical Disease SpR (Via Switchboard)				
	SpR name: **Consultant name:**	**Any additional action(s) instructed:**			
M11	Contact Virologist (0207 380 9978 & ask for Consultant Virologist on duty to be bleeped) Virologist will deal with the PCR and will inform Microbiology/Infection Control Team				
	Virologist name:	**Any additional action(s) instructed:** VHF PCR to be done? Yes ☐ No ☐			
M12	Contact CCDC: 7220 4500 Out of hours: 07623 543 249 or via UCLH Switchboard.				
	CCDC name:	**Any additional action(s) instructed:**			
N7	Arrange admission of patient to Isolation Room on 8th floor Infection Ward				
N8	Update contact list prior to transfer to 8th floor Infection Ward (page 6)				

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Deleted: testing agreed

Use the multi-disciplinary notes (pages 15-16) to record any other observations not covered by the ICP.

4. Any Consultant requests for processing further samples before the VHF PCR result is available, **MUST** be discussed with relevant laboratory.

Samples taken should be listed on page 13.

Under **NO CIRCUMSTANCES** will clotting or ESR be performed.

VHF ICP	AFFIX PATIENT ID LABEL HERE	Date	

HIGH RISK

Code	ACTION	Time	Sign	Reason for variance & action taken (use codes)	Sign for variance
ALL4	**APART FROM EDTA FOR A MALARIA FILM AND CLOTTED BLOOD, NO OTHER SAMPLES SHOULD BE TAKEN AT THIS STAGE UNLESS ON CONSULTANT ADVICE. ANY ALREADY TAKEN SHOULD TRAVEL SECURELY WITH PATIENT TO RFH.**				
M13	Contact Tropical Disease SpR (via Switchboard)				
	SpR name: **Consultant name:**	**Any additional action(s) instructed:**			
M14	Contact SpR at RFH (Switchboard 0207 794 0500)				
	RFH SpR name:	**Any additional action(s) instructed:**			
M15	Contact Virologist (0207 380 9978 & ask for Consultant Virologist on duty to be bleeped) Virologist will deal with the PCR and inform Microbiology/Infection Control				
	Virologist name:	**Any additional action(s) instructed:** VHF PCR to be done? Yes ☐ No ☐			
M16	Contact CCDC: 0207 220 4500 Out of hours: 07623 543 249 or via UCLH switchboard.				
	CCDC name:	**Any additional action(s) instructed:**			
N9	Contact London Ambulance Service : 7827 4597 (request category 3 transfer ambulance)				
	Name at LAS:	**Any additional action(s) instructed:**			
N10	Contact Bed manager/Night Co-ordinator (via switch board UCH bleep 6886 or 6887, and ask them to contact duty manager and press officer)				
	Bed Manager's name:	**Any additional action(s) instructed:**			
N11	Update contact list prior to transfer to Coppett's Wood (page 6)				

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VHF ICP	AFFIX PATIENT ID LABEL HERE	Date	

OTHER SPECIMENS PROVIDED BY THE PATIENT OR TAKEN ONLY WITH AGREEMENT FROM THE TROPICAL DISEASES CONSULTANT

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DATE	TIME	INVESTIGATION	TAKEN BY	RESULT

DATE	TIME	MULTI-DISCIPLINARY NOTES	SIGNATURE

VHF ICP	AFFIX PATIENT ID LABEL HERE	Date	

VHF PCR Result: **Positive ☐** **Negative ☐** **Equivocal ☐**

Date:

ACTION FOLLOWING VHF PCR RESULT

In Attendance

Name	Position	Contact details

VHF ICP	AFFIX PATIENT ID LABEL HERE	Date	

DATE	TIME	MULTI-DISCIPLINARY NOTES	SIGNATURE

Last updated: 20 September 2005

VHF ICP	AFFIX PATIENT ID LABEL HERE	Date	

DATE	TIME	MULTI-DISCIPLINARY NOTES	SIGNATURE

Last updated: 20 September 2005

VHF ICP	AFFIX PATIENT ID LABEL HERE	Date	

VARIANCE CODES

Patient Condition			
001	Pyrexia	014	Wound infection
002	Nausea and/or vomiting	015	Chest infection / UTI
003	Pain not controlled	016	MRSA positive
004	Wound bleeding / oozing	017	Other infection (Please state in notes)
005	Drain oozing / excessive drainage	018	Poor mobility
006	Hypertensive	019	Mobilising faster than expected
007	Hypotensive	020	Fatigue / sedation
008	Pressure area concern	021	Asleep
009	Poor urine output	022	Confused
010	Constipation	023	Communication problem
011	Low blood glucose	024	Other patient condition issue
012	High blood glucose	025	Deep vein thrombosis
013	Catheter in situ	026	Pulmonary Embolism
Staff / persons			
101	Medical staff decision	107	Families decision
102	Medical staff not available	108	Family unavailable
103	Nursing staff decision	109	Other clinician / PAM decision
104	Nursing staff not available	110	Other clinician / PAM
105	Patients decision	111	Other staff / person issue
106	Patient not available		
Departmental system			
201	Done/given previously	209	Nursing staff unavailable
202	Pharmacy delay	210	Medical staff unavailable
203	Trust patient transport delay	211	Physiotherapist unavailable
204	Laboratory delay	212	OT unavailable
205	X-ray delay	213	Bed unavailable in unit
206	Other departmental delay	214	Community care unavailable
207	Equipment unavailable	215	Other clinical staff unavailable
208	Weekend / out of department hours	216	Other departmental system issue
External System			
301	Bed unavailable in other hospital or unit	304	District / community nurse delay
302	Other hospital transport delay	305	Other community service delay
303	Social Services delay	306	Other external system issue
Specific to this ICP			
401	Not registered with a GP	404	
402		405	
403		406	