Norfolk and Norwich University Hospitals NHS Foundation Trust | James Paget University Hospitals NHS Foundation Trust | The Queen Elizabeth Hospital King's Lynn NHS Foundation Trust

Sudden Unexpected Death in Childhood (SUDIC)

or add patient identifier label

Name

Date of Birth

Sex

Address

General Practitioner

D

Introductory Notes

The SUDIC Assessment is designed to help you work through the process of responding to the sudden unexpected dea child. This documentation should be used in conjunction with Clinical Guideline Trustdocs Id: 1228 and The Child Deat Review (CDR) Process, as laid down in Working Together to Safeguard Children 2018 **('A child is defined in the Act person less than 18 years of age')** is intended to ensure that:

- Bereaved families are offered optimal support during a traumatic time.
- A thorough inquiry into child's death is performed, with emphasis on history, examination and investigations.
- Pathologists and the Coroner have access to information which will assist them in accurate determination of the of death.
- The welfare of siblings and subsequent children is safeguarded, whatever the cause of death.

General Principles

- This documentation applies to all children and young people dying suddenly and unexpectedly prior to their 18th birthday.
- In some circumstances, a child is revived by resuscitation efforts, but subsequently dies. In these cases, it is still appropriate to use the SUDIC documentation.
- Following the sudden unexpected death of a child the responsible named consultant will be the Children's Assessment Unit (CAU) consultant

- All family members will be dealt with in a sensitive manner with early involvement of Senior M Staff, (usually the on-call Acute General Paediatrician).
- Careful recording and documentation of the history, examination and appropriate investigatio underpins the process.
- Every sudden unexpected death in childhood should prompt a multi-disciplinary investigation Health Professionals, Police, and Children's Services, the Coroner and others, as appropriate.
- After a sudden unexpected death, it is good practice for the responsible Consultant to write t patient's GP, as soon as possible, giving details of the death and follow-up arrangements.

Informing the Family of Death

• When death has been pronounced, an experienced Paediatrician, preferably a Consultant should break the news to the parents, having first reviewed all available information. • The interview should be in the privacy of an appropriate room. A	• The Child Death Review Team (CDRT) will usually also visit the family home, often in conjunction with the police. The Coroner's Officer and/or CDRT will keep the family up with information from investigations and the post mortem examination. • Explain that we will also liaise with other professionals to best understand the cause o This will include professionals in Health and Children's Services. • Explain that the Pathologist, will need to know everything about the baby's previous m history, and about illnesses/health problems in other family members.

SUDIC	*or add patient identifier label* *Name* *Date of Birth* *Sex*	**D**

Circumstances of Death

Record where, when and by whom the child was found. Record the subsequent course of events. Note resuscitation efforts, and the time of discontinuation. Note names of key professionals involved. Make a copy of Accident and Emergency (A&E) and Ambulance records for the main hospital notes and	Date *dd/mm/yyyy* Time *24hour clock*	Time of Death *24hour clock*
Doctor completing Assessment	Responsible Consultant CDRT.	

Page 2	Print Name *hour clock*	Signature	Date *dd/mmm/yyyy* / T

SUDIC History	*or add patient identifier label* *Name* *Date of Birth* *Sex* *Address* *General Practitioner*

Background Checks

Ascertain if the child or family was/is known to Social Services, and if the child had a Child Protection Plan. Social Servi accessible out of hours via the Hospital Switchboard.

Obtain A&E records and details of admissions/A&E attendances to other hospitals, if known.

Detailed Account of Events Prior to Death

Use this section to record further information about the circumstances of death, if necessary.

Record a detailed account of events leading up to death. This will include at least the last 48 hours prior to death.

Include details of any signs of illness, sleeping and waking, oral intake, including when last fed/eaten.

Note use of any medication (including non-prescribed medication), drugs, alcohol.

Page 3	Print Name	Signature	Date *dd/mmm/yyyy /* Time *24 hour clock*

SUDIC History	*or add patient identifier label* *Name* *Date of Birth* *Sex* *Address* *General Practitioner*

Detailed Account of Events Prior to Death (continued)

Page 4	Print Name	Signature	Date *dd/mmm/yyyy* / *Time 24 hour cl*

SIDIC History	or add patient identifier label *Name* *Date of Birth* *Sex* *Address* *General Practitioner*

Detailed Account of Events Prior to Death (continued)

Insert continuation paper at this point if ne

Page 5

Print Name | Signature | Date *dd/mmm/yyyy* / Time *24 h*

SUDIC History	*or add patient identifier label* *Name* *Date of Birth* *Sex* *Address* *General Practitioner*

Previous Medical History

Record appropriate details of previous medical history, including:

Where relevant, details of birth history, antenatal problems, and admission to neonatal unit

- Immunisations
- Development and Behaviour
- School/Nursery/Child Minder attended. Any problems/concerns?
- Illnesses, operations, accidents, particularly noting outpatient and inpatient Hospital and A&E attendances. Wher has been admitted to hospital determine where, when and why.
- Medication
- Allergies

Page 6	Print Name	Signature	*Date dd/mmm/yyyy /* Time *24 h*

SUDIC Social and Family History	or add patient identifier label *Name* *Date of Birth* *Sex* *Address* *General Practitioner*

D

Household and Family Composition (Also record details of all who cared for the child)

First Name	Date of Birth	Address and Telephone number	Relationship to Child
Surname	Gender		Parental Responsibility
First Name	Date of Birth	Address and Telephone number	Relationship to Child
Surname	Gender		Parental Responsibility
First Name	Date of Birth	Address and Telephone number	Relationship to Child
Surname	Gender		Parental Responsibility
First Name	Date of Birth	Address and Telephone number	Relationship to Child
Surname	Gender		Parental Responsibility
First Name	Date of Birth	Address and Telephone number	Relationship to Child
Surname	Gender		Parental Responsibility
First Name	Date of Birth	Address and Telephone number	Relationship to Child
Surname	Gender		Parental Responsibility
First Name	Date of Birth	Address and Telephone number	Relationship to Child
Surname	Gender		Parental Responsibility

Other Relevant Family History/Information

Record all salient information. It is useful to include a family tree. If appropriate, note any family history of easy bruising or fractures.

Page 7	Print Name	Signature	Date *dd/mmm/yyyy* / Time *24 hour clock*

SUDIC Examination

or add patient identifier label

Name

Date of Birth *Sex*

Address

General Practitioner

D

Examination

The examination must be thorough and detailed. It should be performed as soon as possible after death has been declared. Skin and Rectal temperature should be recorded (note time). General appearance (including nutrition, cleanliness, condition of clothing). Dysmorphic features. Growth (height, weight and head circumference) Any evidence of rashes, external injuries or marks and record details on body diagrams overleaf.	Record any lesions of face, mouth or nose. Any signs of injury to genitalia/anus. Specifically note features relating to resuscitation / investigation (broken ribs from cardiac massage, puncture marks, cannulas etc.) Keep all clothing and effects in labelled paper bags, folded at the top and closed with tape (not stapled).

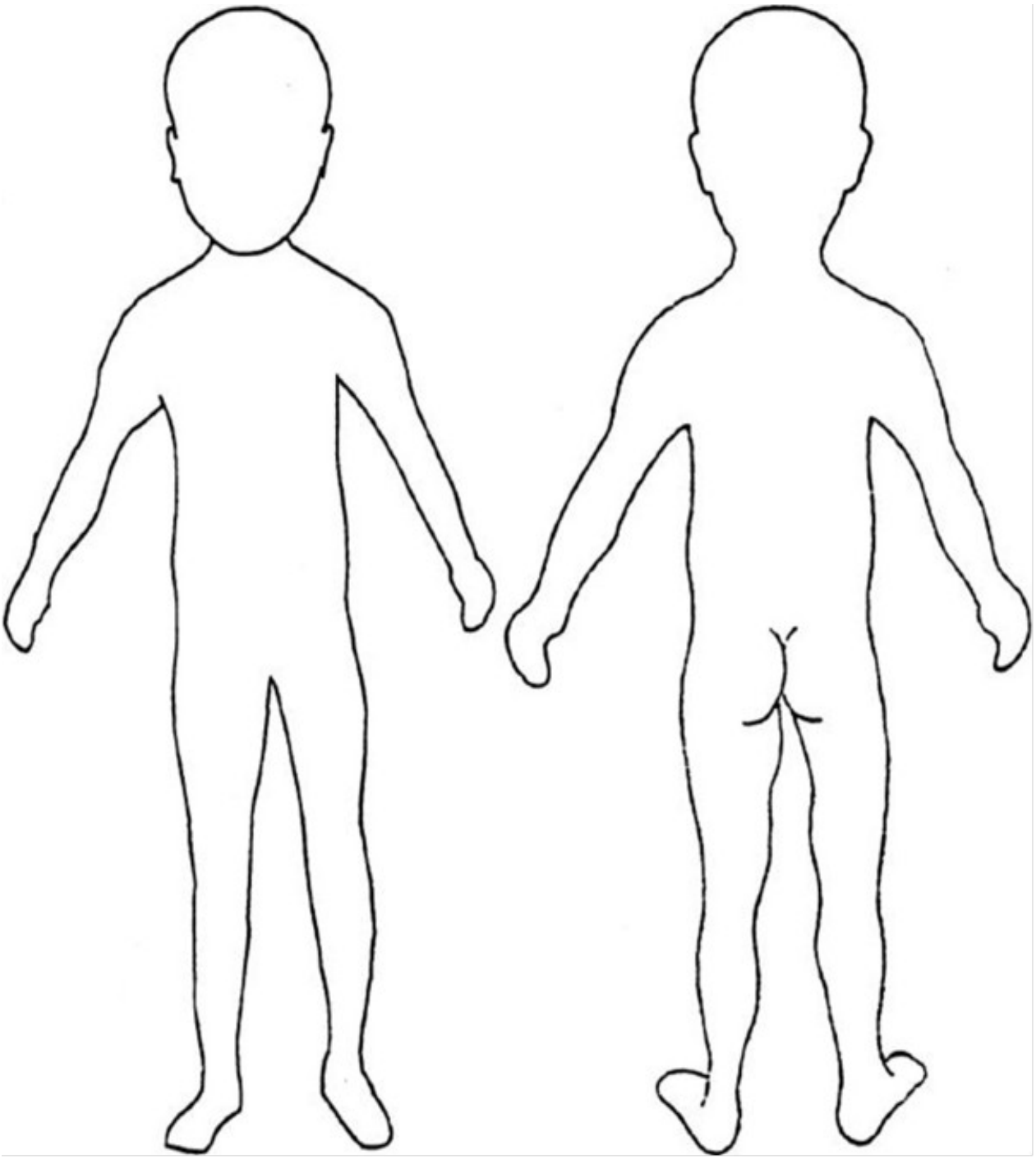
Height/Centile	Weight/Centile	Head Circumference/Centile

Print Name Signature Date *dd/mmm/yyyy* / Time *24 hour clock*

Examination (continued)

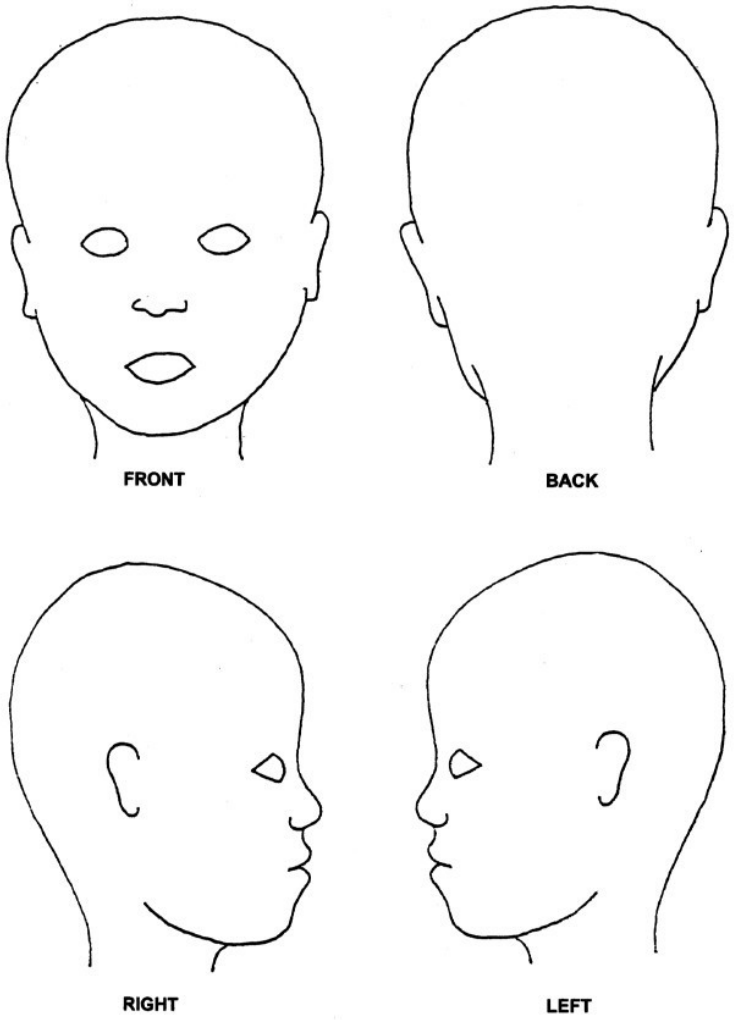
SUDIC Examination	or add patient identifier label Name Date of Birth Sex Address General Practitioner	D

Examination (continued)



Page 10	Print Name	Signature	Date *dd/mmm/yyyy* / Time *24 hour clock*

Examination (continued)



Discussion with Parents and Follow-up

Briefly note discussions with parents.

Explain involvement of Police and Coronial service, and, if appropriate, involvement of the RRT.

Note the plan for follow-up with the parents/care-givers.

SUDIC Contact Checklist	*or add patient identifier label* *Name* *Date of Birth* *Sex* *Address* *General Practitioner*	D

SUDIC Checklist

The checklist must be completed for all cases. This ensures that key individuals are notified of the death, and are provided with relevant information. Urgent contacts should be called without delay.

Note name and contact details of individual spoken to.

Urgent Contacts

Agency	Contact Information	Person	Date/Time
Medical Examiner at NNUH	medicalexamineroffice@nnuh.nhs.uk		
Coroner	Telephone 01603 663302 in office hours, via switchboard out of hours.		
Norfolk Police	Dial 101 Child Abuse Investigation Unit		
Children's Services	0344 800 8021 (8am-8pm Mon-Fri) Or EDT (out of hours) 0344 800 8020		
Child Death Review Team	07866059486 (8am to 6pm) Out-of-hours, leave message on extension 3201 (direct dial 287201)		
Designated Safeguarding/CDR team	Telephone 01603 257164		

Other Contacts

It is good practice to contact any Health Professionals who have had recent involvement with the child.
It may also be helpful to speak to the child's school, or schools attended by siblings (requires parents' permission).

In certain circumstances, child deaths may lead to significant media interest and publicity. In such circumstances it may be helpful to discuss this with the Trust's Communications Department on extension 3200, (direct dial 01603 287200).

SUDIC Final Checklist	*or add patient identifier label* *Name* *Date of Birth* *Sex* *Address* *General Practitioner*	**D**

Final Checklist		
Complete Patient Episode on PAS.	This ensures all future appointments are cancelled.	
Complete Electronic Discharge Letter (EDL) (this should be followed by a letter from the responsible Consultant).	This ensures the GP receives timely information.	
Complete the Chain of Evidence form (page13) and photocopy it.	The photocopied form should accompany all laboratory specimens to Pathology Reception, and be signed by the person taking the samples and laboratory staff. The form must remain in the laboratory.	
Photocopy the complete SUDIC paperwork, Ambulance record and A&E notes for the RRT	The RRT needs full information to assist in gathering evidence at the Home Visit.	
Put the SUDIC paperwork and photocopy of Ambulance & A&E record in main hospital notes.	It may be helpful for the responsible Consultant to retain a copy for their own information.	

SUDIC

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SUDIC investigations

Complete this page, and then photocopy it. The copy needs to be signed by the doctor completing the request and the individual taking the specimens to the laboratory. The form should remain with the laboratory for subsequent signing by microbiology. Any blood or other samples obtained prior to death must also be retained for potential future analysis. Notify the laboratory of the need for such samples to be kept.

Notes

Notes

Note which investigations were done during (or prior) to resuscitation, particularly urinalysis, capillary blood glucose and ketones, and blood gas analyses. Ensure the blood gas result is copied into the notes as the printout fades with time.

Investigations During Resuscitation

Blood	Urine and Other samples	Other	
Blood Gas[1] ☐		Urinalysis ☐	Chest X-ray
Blood Glucose[1] ☐			ECG
Blood ketones[1,2] ☐			
Other (specify):			

Standard Investigations Following Death

Samples should be taken as soon as possible after death.

Blood samples may be taken from the heart (insert syringe and needle at 90˚ in the 4th intercostal space at the LEFT sternal edge. If blood is not obtained easily, attempt to obtain blood from the 4th intercostal space at the RIGHT sternal edge.

Urine samples can be taken by using a catheter/feeding tube, or by suprapubic aspirate.

CSF is obtained by lumbar

Blood	Urine and Other samples	Other	
[A] Blood Gas1 ☐		Urinalysis ☐	All standard investigations should normally be done unless clearly irrelevant. ☐ ☐

puncture in the usual way. It may be easier to use a hypodermic needle rather than a standard LP needle. If there is significant blood staining of CSF, this may indicate intra-cerebral haemorrhage / closed head trauma. Ensure the Police and Coroner are notified of this finding. Record puncture sites for investigations on the body diagrams	[B] Blood Glucose1 ☐ Blood ketones1,2 ☐	Urine toxicology ☐ Urine metabolic screen5 ☐					
	[C] U&Es, LFTs, Ca, Mg, CRP ☐	Urine MC&S Urine for storage6 (spin and freeze at -20˚C) ☐		1			
	[D] FBC, ESR ☐						
	[E] Clotting ☐	CSF glucose7 ☐		2	Only required if not done prior to death. If after death, they must be done immediately to be of any value		
	[B] Blood alcohol ☐						
	[C] Troponin I3 ☐	CSF Protein7 ☐		3			
	[H] Tryptase3 ☐						
	[F] Neonatal Screening Card3 (for Acylcarnitines) ☐	CSF MC&S7 ☐		4	If suspected infection in children older than 2 months Use blood ketone test strip – laboratory analysis not required		
	[G] Blood Culture ☐	CSF for storage6, 7(spin and freeze at -20˚C) Gastric aspirate (for culture) ☐		5			
	[H] Viral serology ☐				If anaphylaxis, unexplained shock or suspected cardiac cause		
	[H] Pneumococcal, HiB and Tetanus Antibodies4 ☐	NPA: Virol.	☐	MC&S	☐	6	Stored samples are discarded after 6 months
	[D] Low resolution micro-array5 ☐	Throat Swab Virol.	☐	MC&S	☐	7	
	[complete Molecular Genetics Request form] ☐				Infants, or older children if history of learning difficulties or dysmorphic features		
	[C] Green Top bottle for storage6 ☐	Nasal Swab ☐		8	for suspected metabolic disease – usually done at post-mortem		If there is significant blood staining, this may indicate intracerebral haemorrhage or trauma.
	[D] Purple Top bottle for storage6 ☐	Surface swabs from any skin lesions ☐					
	[H] Red Top bottle for storage6 ☐	COVID-19 T/N Swabs ☐					
	[G] Blood Culture ☐	Skin biopsy ☐					
	Samples Required						

Note that ALL post-mortem specimens MUST be taken to the Pathology Laboratory in person, and not sent by the Vacuum tube system. **<u>Microbiology samples MUST also be taken to the Pathology Laboratory, and not sent via the West Atrium.</u>** **This is to ensure the chain of evidence is maintained**	Blood (Use Adult Blood Tubes): A Blood Gas Syringe or Cap. tube x 1 B Grey Top (Fluoride Oxalate) x 2 C Green Top (Lithium Heparin) x 2 D Purple Top (EDTA) x 3 E Blue Top (Citrate) x 1 F Neonatal Screening Card x 1 G Blood Culture Bottle x1 H Red Top (Serum) x 2	Urine: Universal bottle x2 Boric acid x1 (red top) CSF: Universal bottle x4 (10-20 drops in each) Grey Top bottle x1 Gastric aspirate: Universal bottle x1 NPA x2 Bacterial swabs x2, Virology swabs x2	Skin biopsy specimens should be stored in sterile saline in a universal bottle. Blood staining of CSF may indicate intracerebral haemorrhage/trauma. Ensure the Police and Coroner are notified.

Investigations
Record any additional investigations performed

	Print name	Signature	Date *dd/mm/yyy*	Time *24 hour clock*
Samples taken by:				
Chain of Evidence Form completed by:				
Samples taken to Main Lab by:				
Samples received in Main Lab by:				
Samples received in Microbiology Lab by:				

Page 14	To assist laboratory staff in interpretation of results, note date and time of death.	*Date of Death*	*Time of Death*

Appendix 1

Skin Fibroblast Sampling in cases of Sudden Unexplained Death in Childhood (SUDIC)

Background

Skin biopsy for fibroblast culture is recommended within the Kennedy Sampling Guidelines in cases of sudden child death where there is possibility of an underlying chromosomal anomaly or metabolic disorder.

Not all cases of sudden death will require this investigation, however it should be considered at the time of examination and sampling and appropriate consent sought.

Fibroblasts from skin biopsy are used to extract DNA which can be stored indefinitely. This allows future further DNA extraction and metabolic testing.

It is important to note that fibroblast culture from skin biopsy is not always successful. Post-mortem skin biopsy should be obtained ideally within 24 hours of death. Samples taken after 48 hours post-mortem are extremely unlikely to successfully culture fibroblasts.

Identifying need for fibroblast culture

This investigation is recommended in the RCPCH guidance in all cases of sudden unexplained death where metabolic disease is suspected.

In practice an obvious cause of death may not be apparent, hence particular suspicion of metabolic disease should be raised in cases of:

- Sudden death in babies and children under 2 years
- Family history of metabolic disorders or SUDIC
- Children with complex medical/developmental needs without clear unifying diagnosis.
- Any other cases where the lead consultant feels there is clinical suspicion of metabolic disease.

Consent

The collection of Kennedy samples in cases of SUDIC is a mandatory legal requirement, hence written consent is not formally required. However, the process should be explained to the parents including the rationale for testing and all investigations needed. Skin biopsy and fibroblast culture should be included in this discussion if indicated.

In all cases, explanation should include both the process itself and the need for DNA and skin fibroblast storage to enable future genetic or metabolic investigation should this be needed.

The conversation with parents including verbally obtained consent should be documented.

Long term/indefinite storage of DNA extracted from fibroblast culture requires specific consent.

Organising biopsy and culture

The skin biopsy request page in the SUDIC paperwork should be completed, documenting clinical reason for the request and confirming parents are aware of need for the investigation.

Consent for indefinite DNA storage, if obtained, should be documented.

Copies of all SUDIC paperwork, including skin biopsy request and agreement should be delivered to the mortuary with the child.

Mortuary staff should be informed of the request for skin biopsy and the necessary time frame. For deaths outside of normal working hours, biopsy would be performed during the next working day.

On the rare occasion of the mandatory time frame ending before the next working day, an on-call mortuary staff member may be requested to attend to ensure sampling is completed within the necessary window.

The biopsy will be performed by an appropriately trained member of mortuary staff. The date, time and location of the biopsy will be documented within the skin biopsy page of the SUDIC paperwork.

Samples will be sent to the Addenbrookes Genetics laboratory for fibroblast culture and DNA extraction. Results should be recorded as part of the final post-mortem report.

Consent for skin fibroblast testing

In cases of sudden, unexplained death where there is a possibility of underlying metabolic disorder, RCPCH guidance advises a skin biopsy is taken for fibroblast culture to identify any metabolic pathologies.

Skin biopsy will be undertaken *only when it has been agreed that this is needed by the overseeing paediatrician, and where the family have been informed of the need to take these samples as part of the Kennedy sampling process*.

Has the need for skin biopsy been discussed with parents? **Yes / No**

Comments

……

Do parents consent for indefinite DNA storage in case of need for future testing? **Yes / No**

Comments……

Testing Record for Mortuary staff

Date and time skin biopsy taken …….. ……**am / pm.**

Location of biopsy site

(usually taken from thigh) ……

left / right.

Taken by:

(Name)

(Signature)

Date and time sent to laboratory

……..

……**am / pm.**