
 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 death of a child. This documentation should be used in conjunction with Clinical Guideline [Trustdocs Id: 1228](#) and The Child Death 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 cause 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 Medical Staff, (usually the on-call Acute General Paediatrician).
- Careful recording and documentation of the history, examination and appropriate investigations underpins the process.
- Every sudden unexpected death in childhood should prompt a multi-disciplinary investigation involving 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 to the patient's GP, as soon as possible, giving details of the death and follow-up arrangements.

Informing the Family of Death

<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 of 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.
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<div style="background-color: black; color: white; padding: 5px; display: inline-block;">SUDIC</div>	<i>or add patient identifier label</i> Name Date of Birth Sex	D
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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	Date <i>dd/mm/yyyy</i> Time <i>24hour clock</i>	Time of Death <i>24hour clock</i>
Note names of key professionals involved Make a copy of Accident and Emergency (A&E) and Ambulance records for the main hospital notes and CDRT.	Responsible Consultant	

Page 2	Print Name <i>hour clock</i>	Signature	Date <i>dd/mmm/yyyy / T</i>
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<div style="background-color: black; color: white; padding: 5px; display: inline-block;">SUDIC History</div>	<p style="text-align: center; color: gray;"><i>or add patient identifier label</i></p> <p>Name</p> <p>Date of Birth Sex</p> <p>Address</p> <p>General Practitioner</p>
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Background Checks

Ascertain if the child or family was/is known to Social Services, and if the child had a Child Protection Plan. Social Services 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

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Address

General Practitioner

Detailed Account of Events Prior to Death (continued)

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

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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. Where has been admitted to hospital determine where, when and why.
- Medication
- Allergies

SUDIC Social and Family History	<i>or add patient identifier label</i>	D
	Name	
	Date of Birth	Sex
	Address	
	General Practitioner	

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
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 <i>dd/mmm/yyyy</i> / Time <i>24 hour clock</i>
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SUDIC Examination

or add patient identifier label

Name

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D

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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

Page 8

Print Name

Signature

Date dd/mmm/yyyy / Time 24 hour clock

SUDIC Examination

or add patient identifier label

Name

Date of Birth

Address

General Practitioner

Sex

D

Examination (continued)

Print Name

Signature

Date dd/mmm/yyyy / Time 24 hour clock

SUDIC Examination

or add patient identifier label

Name

Date of Birth

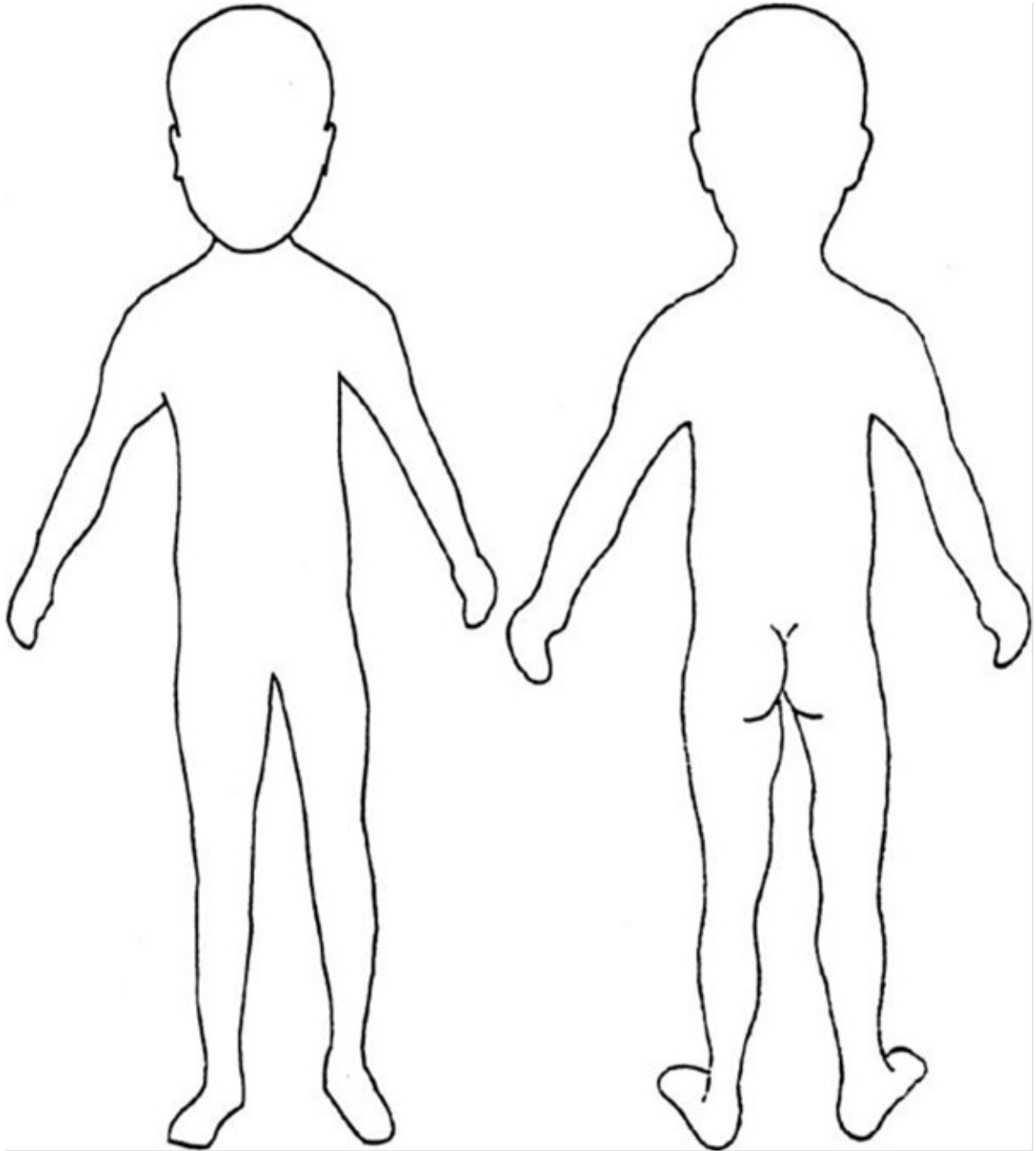
Address

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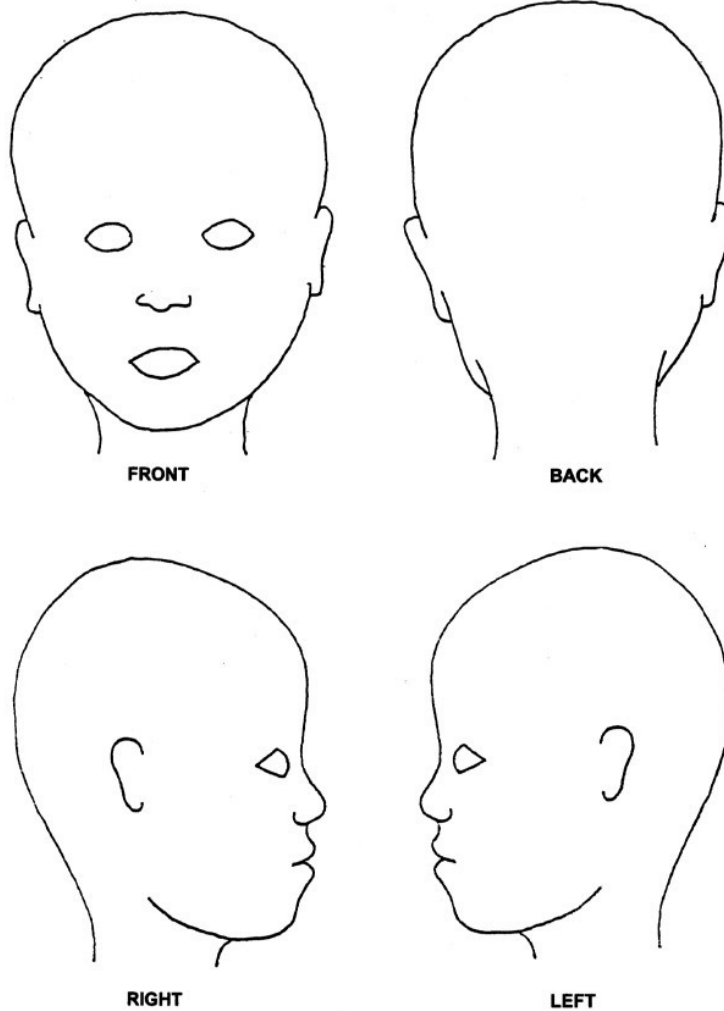
Examination (continued)



SUDIC Examination

<i>or add patient identifier label</i>		D
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General Practitioner		

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 Final Checklist

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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.	

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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

Investigations During Resuscitation

Notes	B l o o d	Urine and Other samples	Other
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.	Blood Gas ¹ <input type="checkbox"/>	Urinalysis <input type="checkbox"/>	Chest X-ray ECG
Samples should be taken as soon as possible after death.	Blood Glucose ¹ <input type="checkbox"/> Blood ketones ^{1,2} <input type="checkbox"/>	Other (specify):	

Standard Investigations Following Death

Notes	B l o o d	Urine and Other samples	Other
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	[A] Blood Gas ¹ <input type="checkbox"/>	Urinalysis <input type="checkbox"/>	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 <input type="checkbox"/>	Urine toxicology <input type="checkbox"/>		
Blood ketones1,2 <input type="checkbox"/>	Urine metabolic screen5 <input type="checkbox"/>		
[C] U&Es, LFTs, Ca, Mg, CRP <input type="checkbox"/>	Urine MC&S Urine for storage6 (spin and freeze at -20°C) <input type="checkbox"/>	1	
[D] FBC, ESR <input type="checkbox"/>			
[E] Clotting <input type="checkbox"/>	CSF glucose7 <input type="checkbox"/>	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 <input type="checkbox"/>			
[C] Troponin I3 <input type="checkbox"/>	CSF Protein7 <input type="checkbox"/>	3	
[H] Tryptase3 <input type="checkbox"/>			
[F] Neonatal Screening Card3 (for Acylcarnitines) <input type="checkbox"/>	CSF MC&S7 <input type="checkbox"/>	4	If suspected infection in children older than 2 months Use blood ketone test strip – laboratory analysis not required
[G] Blood Culture <input type="checkbox"/>	CSF for storage6, 7 (spin and freeze at -20°C) Gastric aspirate (for culture) <input type="checkbox"/>	5	
[H] Viral serology <input type="checkbox"/>			If anaphylaxis, unexplained shock or suspected cardiac cause
[H] Pneumococcal, HiB and Tetanus Antibodies4 <input type="checkbox"/>	NPA: Virol. <input type="checkbox"/>	MC&S <input type="checkbox"/>	6 Stored samples are discarded after 6 months
[D] Low resolution micro-array5 <input type="checkbox"/>	Throat Swab Virol. <input type="checkbox"/>	MC&S <input type="checkbox"/>	7
[complete Molecular Genetics Request form] <input type="checkbox"/>			difficulties or dysmorphic features
[C] Green Top bottle for storage6 <input type="checkbox"/>	Nasal Swab <input type="checkbox"/>	8	for suspected metabolic disease – usually done at post-mortem
[D] Purple Top bottle for storage6 <input type="checkbox"/>	Surface swabs from any skin lesions <input type="checkbox"/>		If there is significant blood staining, this may indicate intracerebral haemorrhage or trauma.
[H] Red Top bottle for storage6 <input type="checkbox"/>	COVID-19 T/N Swabs <input type="checkbox"/>		
[G] Blood Culture <input type="checkbox"/>	Skin biopsy <input type="checkbox"/>		

Samples Required

<p>Note that ALL post-mortem specimens MUST be taken to the Pathology Laboratory in person, and not sent by the Vacuum tube system.</p> <p>Microbiology samples MUST also be taken to the Pathology Laboratory, and not sent via the West Atrium.</p> <p>This is to ensure the chain of evidence is maintained</p>	<p>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</p>	<p>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</p>	<p>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.</p>	
	<p>Investigations</p> <p><i>Record any additional investigations performed</i></p>			
	Print name	Signature	Date dd/mm/yyyy	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.**