1. PURPOSE AND SCOPE
Cancer Research UK (CRUK) is committed to its mission of bringing forward the day when all cancers are cured. CRUK expects the research it supports to be conducted according to the highest standards of research practice to ensure the integrity and reliability of the research and outputs.

These Guidelines set out how we expect researcher communities and organisations who receive CRUK-funding to support research integrity. CRUK strongly encourages all UK Host Institutions to follow the Universities UK’s Concordat to Support Research Integrity (the Concordat) (as amended) and to adopt these measures. In particular, expects the CRUK Institutes (as defined in para 6.2) to be at the forefront of implementing the steps, standards and practices outlined in Section 3. Host Institutions outside the UK are also expected to follow appropriate guidelines of a similar standard.

CRUK expects all individuals involved in research communities, including researchers, research support staff, research managers and administrators, to abide by the principles set out in the Concordat and to work with due respect for one another within a supportive and open environment.

These Guidelines should be read in conjunction with the Research Integrity section of Cancer Research UK’s Grant Conditions.

David Scott, the Director of Discovery Research and Research Communications, and Ian Walker, the Director of Clinical, Population and Early Detection, are the senior members of staff who oversee research integrity at CRUK. Dan Burkwood Daniel.Burkwood@cancer.org.uk is the first point of contact for CRUK on research integrity matters.

2. RESEARCH MISCONDUCT
For the purposes of these Guidelines, we use the Concordat’s definition of Research Misconduct, and we expect Host Institutions we fund to do the same.

The Concordat defines misconduct as “behaviours or actions that fall short of the standards of ethics, research and scholarship required to ensure that the integrity of research is upheld.” This includes fabrication, falsification, plagiarism or deception in performing or reviewing research, and in reporting research outputs. For example, omitting relevant data, manipulating images, or misusing data by deliberately attempting to re-identify people from research data are all examples of research misconduct. Research misconduct does not include honest differences in the design, execution or interpretation in evaluating research methods or results, or research of poor quality unless this encompasses the intention to deceive.

3. GUIDANCE FOR MITIGATING THE RISK OF RESEARCH MISCONDUCT
Researchers and institutions should consider implementing the recommendations set out below to mitigate the risk of research misconduct.

3.1. The Concordat to Support Research Integrity

3.1.1. CRUK supports the Concordat, and is committed to the following five principles:
• Upholding the highest standards of rigour and integrity in all aspects of research; both the research itself and any resulting publications.
• Ensuring that research is conducted according to appropriate ethical, legal and professional frameworks, obligations and standards.
• Supporting a research environment that is underpinned by a culture of integrity and based on good governance, best practice and support for the development of researchers.
• Using transparent, timely, robust and fair processes to deal with allegations of research misconduct should they arise.
• Working together to strengthen the integrity of research and to review progress regularly and openly.

3.2. Integration of research integrity principles into research culture

3.2.1. It is the responsibility of Host Institutions – and all those undertaking, supporting or otherwise engaged in research – to maintain a culture that nurtures good practice and where honest and ethical conduct of science is an expected norm. A supportive and honest research culture should be a central tenet of the leadership’s vision of success and permeate the behaviours and practices of individuals at every level.

3.2.2. Researchers have a responsibility to report actual or attempted breaches of ethical, legal and professional frameworks, obligations and standards to the Host Institution. This should be done in line with published institutional guidance.

3.2.3. Staff and student induction sessions are a good opportunity for institutions to instill the tenets of the Concordat. All new research staff, students and visiting researchers should be encouraged to attend induction sessions on research integrity and an introduction to the policies outlined in Section 1.3.5.

3.2.4. Effective people management is key to fostering a culture of research integrity and group leaders have a responsibility to mentor, supervise and support members of their group. All group leaders should be given the opportunity to improve/refresh their management skills through formal and informal training (e.g. EMBO’s Laboratory Management Course).

3.2.5. Mentoring of new group leaders by senior staff is to be encouraged; particular guidance should be provided when a junior group leader recruits lab members for the first time.

3.2.6. Institutions and researchers may also hold informal workshops/retreats for group leaders to share experiences and promote further development.

3.2.7. Institutions must provide training to equip researchers with the skills, knowledge and resources to conduct science that is high-quality, ethical and valuable. Formal workshops or training courses may provide further guidance on practical measures to promote research integrity, such as responsible authorship and publication, avoiding plagiarism, experimental design, reproducibility, data management, appropriate use of statistical tests, record keeping, and responsible image processing.

3.3. Peer review

3.3.1. Peer review is a primary control route for mitigating research misconduct. Regular meetings should be held to allow peers and group leaders to scrutinise each other’s research, including:
• Students’ meetings
• Individual lab meetings
• Group Leader meetings
• Departmental/Institute-wide meetings
• Inter-disciplinary meetings

3.3.2. Where possible, papers and funding applications should be peer reviewed prior to submission, in particular those from junior researchers.

3.4. **Role of the Research Integrity Officer (RIO)**

3.4.1. Host Institutions should have a designated member of staff who has responsibility for matters of research integrity within the organisation. Their contact details should be publicly available on the Institution’s website. Their responsibilities could include:

- Co-ordinating inductions for new starters and group leaders and regular refresher training
- Issuing regular updates to relevant policies
- Acting as a point of contact for anyone wanting to raise research integrity-related queries and for the organisation’s whistleblowing procedure
- Ensuring that policies relating to data archiving are adhered to
- Orchestrating internal peer review

3.4.2. Host Institutions should also have a senior staff member responsible for overseeing research integrity. Their contact details should also be publicly available on the Institution’s website.

3.5. **Policies that Host Institutions should implement to support research integrity**

Organisations in receipt of CRUK-funding should hold each of the documents set out below in sections 3.5.1 to 3.5.3 below, benchmarked against other reputable research organisations.

These documents, along with a copy of the Concordat, should be held as a set and be clearly accessible/visible to all staff and students via links on websites or clearly signposted on shared drives. They should be given to all new starters and visiting researchers. Reminders should be sent periodically to all staff so that awareness of the policies, and where they can be found, remains high.

The key policy documents are:

3.5.1. **Procedure to Investigate Allegations of Misconduct** – A document detailing the various stages that would occur when investigating allegations of research misconduct. This does not need to be a separate document relating specifically to research misconduct, i.e. it can be a procedure that covers a wide range of issues. See further section 3.9.

3.5.2. **Whistleblowing procedure** – A policy statement regarding the treatment of whistleblowers under applicable whistleblower protection legislation should be made available to all members of staff and students, outlining:

- that research misconduct is taken seriously
- the process to follow when raising concerns or making a research misconduct complaint
- that any student or member of staff with genuine concerns can raise them confidentially without fear of suffering any detriment
- equally, that disciplinary procedures are in place to deal with malicious allegations.
3.5.3. **Code of Good Practice** – A document describing the values and behaviours that are expected to be upheld by researchers when undertaking research at the institution. This should include a requirement that researchers conduct their work in accordance with ethical, legal and professional obligations and standards.

3.6. **Host Institutions must produce an annual research integrity statement**
As required by the Concordat, Host Institutions must produce a short annual statement on Research Integrity. This must be presented to their governing body and subsequently made publicly available e.g. on the institution’s website.

As required by the Concordat, the annual statement must include:
- A summary of activities to support research integrity
- A statement to provide assurance that the processes for dealing with allegations of misconduct are transparent, timely, robust and fair
- A high-level statement on any formal investigations of research misconduct that have been undertaken, including data on the number of investigations
- A statement on lessons learned from misconduct investigations
- A statement on how the institution creates a research environment where all staff, researchers and students feel comfortable to report instances of misconduct.\(^1\)

3.7. **Data archiving**

3.6.1. Host Institutions should establish clear, consistent data retention policies applicable to, and covering all data generated by, the research undertaken at the institution. All data generated should be subject to these policies.

3.6.2. It is advisable, and where resource allows, that any raw data and related material (and in particular data relating to published research) is retained according to standard guidance and for a minimum of 10 years after the study has been completed or, in the case of population health and clinical data, a minimum of 20 years. In addition, if image processing is used, a copy of the original image file as well as the manipulated image should be retained. Research based on clinical samples or relating to public health might require storage for longer to allow for long-term follow-up to occur.

3.8. **Continuous improvement**
Cancer Research UK believes that the culture of research integrity outlined in Section 3.1 should be underpinned by a philosophy of continual improvement.

Given the constantly evolving world of research, Host Institutions should periodically review processes and procedures to ensure they remain fit for purpose.

In addition, Host Institutions should seek opportunities to share their knowledge to foster the development and the dissemination of best practice.

3.9. **Responsibilities of the Host Institution to investigate and report allegations of misconduct to CRUK**

\(^{1}\) Taken from the Concordat.
3.8.1. As per CRUK’s Grant Conditions, the Host Institution must have formal written procedures for the handling of allegations of research misconduct made against its staff and students.

3.8.2. CRUK recommends that those procedures include:
   - A definition of research misconduct that includes, or is consistent with the Concordat.
   - Guidance as to who can make an allegation, how to do so and to whom to send it.
   - The timescales within which allegations will be dealt.
   - The support to be provided to all parties involved.
   - The use of independent external members of formal investigation panels, and ensuring that the investigation is independent and avoids any potential conflicts of interest.
   - The fact that CRUK must be notified of allegations at the earliest opportunity.
   - The possible sanctions if the allegation is upheld.
   - How an appeal can be made.
   - Procedures for record keeping, including the fact that contemporaneous records of all allegations and investigations must be kept, who is responsible for keeping them and how those records should be kept.
   - Provisions to apply to visiting researchers (including students or staff).

3.8.3. The procedures should be developed and reviewed in light of, and be substantially consistent with, the Concordat and the UK Research Integrity Office’s recommended procedure for investigation (http://ukrio.org/publications/misconduct-investigation-procedure/).

3.8.4. It is the responsibility of the Host Institution to:

   i. Identify a member of staff to act as first point of contact for anyone wanting to raise issues relating to research misconduct at the institution.

   ii. Carry out an impartial, fair and timely investigation of all allegations of research misconduct made against its staff and students.

   iii. Inform CRUK’s Head of Research Funding Operations, Dan Burkwood Daniel.Burkwood@cancer.org.uk, in confidence, about any allegations of research misconduct made against employees or students at the Host Institution who are funded by CRUK or have an application for funding under consideration. CRUK should be notified about any allegations at the earliest opportunity, and in any event no later than the point at which a decision is made to conduct an investigation, preliminary or otherwise.

   The Host Institution must tell CRUK (in confidence if the information is not in the public domain):
   - the name of the person against whom the allegation is made
   - the person’s connection to CRUK (e.g. relevant current or past CRUK grant reference number(s))
   - a brief factual statement about the nature of the allegation
   - details of any publications or other research outputs affected
   - the start date of the investigation and expected/actual investigation completion date.

   Any information you send to us will be:
   - stored in accordance with data protection law requirements
   - communicated on a need-to-know, restricted-access basis only
• updated and/or deleted in line with our retention policy and reviewed regularly to assess whether it can be removed. Any allegations that are not upheld will be reviewed after two years, the remainder will be reviewed after six years.

iv. Keep CRUK informed during the process of investigation into allegations of research misconduct. We may choose to send a representative to observe any formal inquiry. Investigations should conclude within one year of receiving the allegation.

v. Inform CRUK of the outcome of the investigation as soon as it is known and provide us with the final investigation report.

4. **SANCTIONS**

Reasonable steps should be taken to resolve any issues found during the investigation. If the Host Institution or CRUK determines that the allegation of research misconduct is substantiated, we will consider appropriate sanctions, including:

- letter of concern
- removal from the grant in question or withdrawal of current funding
- restriction from future grant applications
- requiring the withdrawal or correction of pending or published abstracts, papers or monographs produced by the research in question
- requiring the monitoring of future work
- repayment of any grant

Where allegations of research misconduct are upheld, we expect Host Institutions to implement appropriate disciplinary procedures.

5. **CRUK’S RIGHT TO INVESTIGATE**

As stated above, it is the Host Institution’s responsibility to investigate allegations of research misconduct and this is our preferred course of action.

However, CRUK may:

- ask for information about a Host Institution’s processes and how they are effectively implemented
- check that a Host Institution and any sub-grantee have a policy and are following it.

This may be done as part of CRUK’s standard grants management audits or as part of the annual review process in the case of Host Institutions holding core-funding from CRUK.

In exceptional cases, CRUK also reserves the right for it, or its agents, to investigate any aspect of research misconduct itself that concern CRUK-funded researchers (for example, where our reputation is at risk or we are dissatisfied with the investigation undertaken by the Host Institution). Any investigations will only be undertaken following consultation with the appropriate representative(s) of the Host Institution.
6. DEFINITIONS

6.1 Host Institution means the university, institution or other organisation at which some or all of the research funded by a CRUK grant will be carried out.

6.2 Institute means the core-funded Cancer Research UK Institutes, namely the Cancer Research UK Beatson Institute, the Cancer Research UK Cambridge Institute, the Cancer Research UK Manchester Institute and the Francis Crick Institute.

7. RELATED DOCUMENTS

7.1 Cancer Research UK’s Grant Conditions http://science.cancerresearchuk.org/funding/terms-conditions-and-policies/index.htm

7.2 Concordat to Support Research Integrity https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Pages/the-concordat-for-research-integrity.aspx


7.4 UK Research Integrity Office’s recommended procedure for investigation: http://ukrio.org/publications/misconduct-investigation-procedure/

7.5 Integrity in Practice Toolkit (UKRIO & Royal Society) http://ukrio.org/integrity-in-practice-toolkit/

8. DOCUMENT INFORMATION

Note that this policy was formerly called Research Integrity: Guidelines for Scientific Conduct.

<table>
<thead>
<tr>
<th>Version</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved by</td>
<td>Research Funding Operations Board</td>
</tr>
<tr>
<td>Last approved</td>
<td>December 2019</td>
</tr>
<tr>
<td>Next scheduled review date</td>
<td>December 2020</td>
</tr>
<tr>
<td>Document owner</td>
<td>Research Funding Operations Team (Research &amp; Innovation)</td>
</tr>
</tbody>
</table>