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MG/SP/G.YOUNG

MEDICAL REPORT

NAME:	MISS GAIA YOUNG (DECEASED)
D O B:	04.03.1996
D O D:	21.07.2021
ADDRESS:	67 GIBSON SQUARE LONDON N1 0RA
REQUESTED BY:	QUALITY AND SAFETY DIRECTORATE UCL NHS FOUNDATION TRUST HEADQUARTERS 250 EUSTON ROAD LONDON NW1 2PG
DATE OF REPORT:	30 SEPTEMBER 2025

INTRODUCTION

1. This report has been requested by Lady Dorit Young, the mother of Gaia and Cathy Mooney the Director of Quality and Safety at UCLH NHS Foundation Trust.

2. Although this report is prepared as a joint instruction from a clinical perspective, the standard of the report will fulfil the requirements of what is known as CPR 35 of which I am fully appraised.

PERSONAL CV

3. I am Dr Michael Gross, a Consultant Neurologist, at present in full time clinical and medicolegal practice. I have consulting rooms at The Body Factory Rehabilitation Centre in Harrow and also at consult at Clementine Churchill Hospital in Harrow.

4. Up until October 2014 I also consulted at the Spire Hospital, Gatwick Park in Surrey. I have retracted from Surrey which was my NHS territory due to the volume of referrals in all three centres.

5. All of the hospitals where I practise have required annual appraisal in order to maintain admitting rights and I have undertaken those appraisals since 2004. I am due to be revalidated by the General Medical Council in October 2025 for a further five years.

6. I am also fully accredited in clinical neurology and neurophysiology. Up to July 2001 I was Chairman of the Division of Neurological Science at the Royal Surrey County Hospital in Guildford. I was also Consultant Neurologist at the East Surrey Group of Hospitals. This also had a significant neurorehabilitation commitment at what was then the Harrowlands Rehabilitation Centre.

7. What was unusual about the neurosciences practice at the Royal Surrey County Hospital was that our centre required all people with a neurological condition to be assessed by the neurological team and usually admitted into the neurological beds.

8. Although all head injuries were admitted under the orthopaedic surgeons there was again an absolute obligation for every person with a head injury to be assessed by the neurological team. All rehabilitation was then taken over by the neurologists.

9. In view of the exceptional service that we established the neurology unit was shortlisted as the Neurology Team of the Year in both 1998 and 1999. I was shortlisted in view of this as the United Kingdom Hospital Doctor of the Year in both those years.

10. I have previously been the clinical director of the RES Neurology Research Unit. This research facility undertook studies in a number of areas of neurological practice including headache, epilepsy, fatigue, and multiple sclerosis. I have published on a range of neurology topics as can be seen from the attached CV. I continue to publish in learned journals but also have done a great number of articles and assisted writing for the national press and within the media.

11. I belong to a neurosciences peer supervision group who meet regularly and discuss matters in relation to medicolegal practice. For many years we have heard from speakers in all areas of the medicolegal world, both nationally and internationally renowned in their areas of expertise. The group have a particular interest in the validation of symptoms. We have now published our first paper on the subject and further publications are already in preparation.

12. I have lectured regularly to major learned societies as well as local, national, and international groups. I maintain a large clinical practice seeing people with a wide range of neurological disorders. I have a particular focus on the management and treatment of all neurological conditions.

13. In recent years I have continued to have ongoing outpatient clinical neurology practice and also undertaken a number of pro bono clinical consultations under appropriate circumstances.

14. In 2012 I have opened a rehabilitation, therapies, and training centre with a particular interest in rehabilitation working with forty different therapists who offer a range of treatments.

15. Over the years I have been most fortunate to be equally instructed in every area of medicolegal practice. I have done many joint instructions. I regularly give opinion in matters of personal injury, medical negligence, testamentary capacity, capacity, industrial relations, and occasional family division work. I do a significant amount of pro bono advisory work within the world of criminal instruction but cannot take on the full instructions usually because of cost considerations in running a large practice.

16. In 2014 I was nominated for the "Tatler 250". That is a list of doctors throughout the UK who have been nominated by colleagues as "best" doctors. A more comprehensive CV is appended.

17. The practice is fully CMA and GDPR compliant.

PURPOSE OF THIS REPORT

18. I have been asked to reflect on the passing of Miss Gaia Young on 21 July 2021. The Terms of Reference (TOR) for an independent report have been provided and agreed by the Trust and Lady Young, the mother of the deceased.

19. Without any interference with the objectivity of this report, I would extend my albeit belated condolences to Lady Young and her family on the passing of her daughter. For someone who lectures on the philosophy of healthcare and the living process, there is no greater distress than the passing of a child, which is of course the wrong order.

20. I will append the TOR for this report as an appendix. Within the TOR a number of questions have been raised.

DOCUMENTS AVAILABLE

21. The documents available to me for the preparation of this report included the following:

1. Images from Specsavers 19 September 2019, within the report of Mr Durnian
2. Clinical records including imaging and optical coherence tomography from Moorfields Eye Hospital dated 4 December 2019, within the report of Mr Durnian
3. Clinical records dated 16 September 2021
4. Toxicology report from Imperial College London dated 24 August 2021
5. Autopsy report for the coroner prepared by Professor S Al-Sarraj, Neuropathologist, dated 7 October 2021 with addendum 5.1
6. Post mortem for the coroner prepared by Professor Michael Sheaff, Histopathologist, dated 19 October 2021 with addendum 6.1
7. Review prepared by Lady Dorit Young dated 1 January 2022 of UCLH investigation report
8. The UCLH serious incident investigation report dated 7 February 2022 and the action plan
9. Letter dated 7 March 2022 from Dr Ben Killingley of UCLH
10. Moorfields Eye Hospital investigation report dated 14 June 2022, within Mr Durnian's report
11. Revised memorandum prepared by Lady Dorit Young dated 29 August 2022
12. Redacted results from Regional Genetic Laboratory May 2023

13. Biochemical results dated May/June 2024

14. Dr Halpin's Neuroradiology report January 2025

15. Rare & inherited Disease Genomic Laboratory results 4 February 2025

16. The report of Mr Durnian, Consultant Neuro-Ophthalmologist April 2025

22. A number of references have also been provided by Lady Young contributing to my own knowledge and experience, gleaned through decades of neurological practice.

THE BACKGROUND TO NEUROLOGY

23. I thought it might be helpful to Lady Young and perhaps even the Trust team to share some thoughts about the basis of neurological practice. It is an obvious statement that neurology involves the study of the nervous system which is divided into the central nervous system, the peripheral nervous system, and the autonomic nervous system. In this tragic matter it is the brain that was involved.

24. Neurology is an unusual specialty compared to all the other organ system specialties. Rarely do Neurologists have the benefit of a tissue biopsy in order to make a diagnosis. Everything has to be done as I put it, "round the corner."

25. The other problem, particularly when it comes to brain pathology or dysfunction is that the brain itself has no nerve supply (the only part of the body not to do so) and hence the brain can only react in a limited number of ways when things go wrong.

26. The revolution in neurological practice has been the advent of scanning particularly magnetic resonance imaging or MRI. When, for instance, I first started in neurology, so much time was spent on just discussing where in the nervous system a problem was taking place, but now with MRI scanning, these discussions are obviated. It has also meant that there has been a much greater reflection on treatment of the nervous system which has led to a greater expectation amongst all involved.

27. I also point out in my lectures, that although humans may have been on earth for about 100,000 years, representing 3 seconds on the earth's 24 hour clock, therapeutic medicine has only been around for about 60 years and reasonable diagnostic medicine with imaging 40 years. This demonstrates that we are still a long way from understanding how the brain works and equally how it goes wrong under some circumstances.

28. When the brain malfunctions, there is what used to be called a surgical sieve of generic or umbrella diagnostic possibilities. Something might go wrong from the congenital or genetic perspective. There may be inflammatory problems, infectious agents, vascular diseases, degenerative disorders, and metabolic dysfunction. Clearly trauma, toxins including alcohol, prescription and non-prescription drugs and various vitamin deficiencies may also play a role. There are also a group of conditions that do not lend themselves to any particular diagnostic category, for instance, as has been mentioned in some of the literature, the disorder known as idiopathic intracranial hypertension.

HISTORY

29. The history as available suggests that Gaia seemed to be fit and well that day. She had been out cycling. There was nothing untoward as far as anyone could tell other than during dinner that evening, mid conversation she had to go and lie down. She had a headache and this was followed by profuse vomiting. There was a delay of the ambulance service arriving. I always in my medico-legal reports at this time look at the date and in 2021, this was still within the COVID pandemic timetable.

30. The ambulance service identified that the headaches started at 18:00 and that there were five episodes of vomiting. It was commented that she complained of pins and needles in her limbs. At the time that the ambulance service assessed the situation, her Glasgow Coma Score (GCS) was 15/15. Her vital signs were intact, possibly a marginally fast heart rate, and a normal blood sugar, although she was said to be pale, cold, and clammy. Gaia vomited three times whilst the ambulance service was present. They gave her an intravenous anti-emetic.

31. Gaia was then taken to the emergency alone because of restrictions on visiting. She was given an assessment time of 120 minutes by virtue of their own accident and emergency triage assessments.

32. It would seem that the illness had actually been of significance from 18:00 hours with the sudden onset of headache to be seen by a doctor at 23:29.

COMMENT

33. I have great difficulty with the way in which the COVID pandemic was handled. This is not being wise after the event. This taking of people with acute illness into accident department by ambulance unaccompanied in my opinion, though I agree that there will be a range of opinion, has to be one of the scandalous decisions that were taken, and must never ever happen again.

MANAGEMENT FROM 24:00 HOUR ON 18 JULY 2021

34. A low sodium was found at 129 and a raised lactate was caused either by increased lactate production or decreased lactate clearance brought about by tissue hypoxia. The commonest causes would be severe infection, though sometimes medications, toxins and metabolic disorders including cancer (which does not apply here) can lead to that elevation.

35. A triage nurse noted at that time that Gaia was demonstrating unusual behaviour, muttering incomprehensible words and prone to reach out for things that were not in front of her.

COMMENT

36. At this stage it must have been obvious that Gaia lacked capacity. The combination of her severe headache, vomiting, a low sodium, and a high lactate indicated a diagnosis of encephalitis until proven otherwise.

SUBSEQUENT PROGRESS FROM 01:00 HOURS

37. A doctor found her slumped in a wheelchair but easily rousable but said that Gaia was not making any sense and was not able to give any information about what she had been doing that day or how she was feeling. It was then said she was later rolling around complaining of feeling sick. She was not following instructions and would not open her eyes. It was noted that she had deteriorated since she had first been seen.

COMMENT

38. This deterioration was an absolute indication for emergency scanning. It was irrelevant whether she had a fever or even abnormal blood tests. Encephalitis can present without any systemic features as might for instance a subarachnoid haemorrhage, though that was not the subsequent diagnosis.

39. Although there has been criticism of the fundi not being examined, there was a move at that time for non-skilled doctors not to look in the fundi on the basis that they might be getting so close that they could catch COVID. I have already expressed my views about some of these concepts at that time.

40. Since the diagnosis has been assumed to represent encephalitis or encephalopathy, then scanning should have been undertaken and there should have been an immediate treatment with antiviral agents, and antibiotics. Many doctors would have immediately given the appropriate cephalosporin as the recommended antibiotic for bacterial meningitis and there might have been a careful consideration for giving her dexamethasone on the basis that she was likely to have raised intracranial pressure.

41. I personally would not have been concerned about a sodium level of 129. Most Neurologists are used to dealing with people who have sodium levels even as low as 99 or below 110. There however should have been further testing. I do not think it would have changed the absolute need for the emergency treatment that had been given at that time. This became even more apparent when at 01:49 Gaia's GCS had reduced to 11/15 and the NEWS score had increased to 5.

42. I am concerned that there was a repeated thought that she might have been intoxicated. That of course would have been denied instantly by Lady Young if she had been present at the time. I regret to say that I am more than aware of a number of people who have been misdiagnosed with stroke events on the basis that it was thought that they were intoxicated. Why that should have been the thinking of doctors at this time in the COVID pandemic is beyond me. This will however be more for an accident and emergency department specialist to indicate that maybe they had been seeing a lot of intoxicated people at that time. Perhaps however at this young age that should not have been the primary thought.

PROGRESS FROM 03:30

43. I have seen from the records that there was clearly cognitive impairment at that time. Gaia did not follow requests. I do not know what they mean by "it was difficult to complete the full neurological examination." A Neurologist would not have made that comment and I just wonder whether a Neurologist had been asked to come and see Gaia. The fluctuations in her neurological condition were intriguing and that is more difficult to explain, though at that time given that Gaia was being assessed for an encephalitic or encephalopathic illness, means that such fluctuations are known to occur.

44. The normal white cell count and inflammatory markers with an absence of fever suggested that there was no infection. Neurologists however know that regrettably viral encephalitis and autoimmune encephalitis can present without those parameters being abnormal. Whether or not that is well-recognised in accident and emergency department medicine will be for appropriate specialised opinion.

45. I note that no further observations were carried out for 11 hours. That again will be a matter for appropriate specialist opinion. Then at 05:00 hours to 08:30 there was erratic behaviour recorded. Her behaviours were odd. None of that would be contrary to a diagnosis of viral encephalitis or encephalopathy, or the various autoimmune encephalopathies.

46. By 08:40 her GCS once again reduced to 14/15 and she was restless and not behaving appropriately.

47. By 10 o'clock in the morning, at last Lady Young had been contacted and she was able to confirm that the behaviour was very much out of character.

48. By 10:26 Gaia does have a fever. Once again she was behaving erratically. At that time, the impression was of an encephalitis.

49. The medical team then confirmed in their own mind that there was an intracerebral process but again for some reason thought it was toxin related though possibly also inflammatory. For some reason it was thought that it was not an encephalitic process. It was agreed that bacterial and viral infections needed to be covered and that CT brain scan and a lumbar puncture needed to be considered. A urinary catheter had to be passed by 11 o'clock. The CT head scan was requested at 11:06. As I indicated earlier, the anti-viral agent acyclovir 600mg was given with ceftriaxone so that bacterial meningitis, meningoencephalitis, and possible herpes simplex encephalitis were being treated.

50. The investigation of choice in this situation would have been an MRI brain scan, but whether or not that could have been arranged urgently will be for local consideration. Why it was thought that it needed to be done on a non-urgent basis is hard to explain, other than it may have been difficult for Gaia to withstand MRI scanning. The problem with MRI scanning is that an individual has to lie still in the scanner for at least 30-45 minutes. If they are not accompanied by a family member, then this can be a very challenging time for the radiographers to handle. An EEG would also have been helpful but was not available to the managing clinicians at that time.

COMMENT

51. At this moment that only other treatment that might have been offered at that time was high dose steroids. That would have helped any possibility of raised intracranial pressure (ICP). Some Neurologists will give high dose steroids in unexplained encephalitis and others will not on the basis that it could make the infection worse.

52. The CT brain scan was reported by a Consultant Radiologist indicating that there was no intracranial finding, but this is a mistake as was subsequently confirmed by the report of Dr Halpin, a Consultant Neuroradiologist. This clearly was a significant challenge for the medical team and in a way they were then trapped into trying to do the lumbar puncture. Regrettably, it would be the radiologist whose opinion would need to be challenged.

THE NEUROLOGY OPINION 14:30

53. A specialist registrar from the neurology team reviewed Gaia at 14:00 approximately and then just went for the records and did not look at the scans, noting that they were thought to be normal. There was a review by the registrar at 14:30. It was impossible for the neurology registrar to look at her fundi. There was no note of a formal neurological examination. The neurology view was that Gaia was encephalopathic and that further investigation was needed to try and establish a cause and to guide treatment.

54. The Neurology registrar did then review the CT brain and thought there was generalised oedema. By this time, the serum sodium had reduced to 123 with a potassium of 3.3. Those figures were not the cause of her cerebral oedema, but they were possibly secondary to it and they very much needed appropriate clinical management. The management of such metabolic disarray would always be for a General Physician or Endocrinologist to consider. In my own practice I would have called for help if these figures had been found in an individual under the wing of the neurology team.

55. The neurology specialist registrar discussed the head scan with a neuroradiology registrar at The National Hospital Queen Square and it was agreed that there was generalised cerebral oedema and there was some discussion as to whether or not it was safe to proceed with a lumbar puncture.

56. The specialist registrar discussed the care with a Consultant Neurologist and it was agreed that there was generalised swelling of the brain and that the lumbar puncture should not be performed. It was shortly after this that it was identified that there had been a respiratory arrest and that Gaia had been transferred to a CT scanner on route to the intensive care unit.

57. Even though the Neurologist advised that a lumbar puncture should not be carried out, this was attempted. As local anaesthetic was infiltrated, there was an arrest call.

COMMENT

58. It may be that the administration of morphine contributed, but I doubt if infiltrating local anaesthetic under the skin would have had any impact and this was just a progressive deterioration of the encephalitic stroke encephalopathic process.

59. The repeat CT brain scan confirmed that there was a generalised cerebral oedema. Regrettably, subsequently brain scan death was identified.

THE IMAGING REPORT OF DR HALPIN

60. Dr Halpin a Consultant Neuroradiologist has very helpfully reviewed all of the images. The CT brain scan at 13:14 hours on 18 July 2021, was said to show severe cerebral and cerebellar swelling with upwards and downwards herniation of the cerebellum.

61. The scan at 16:53 hours on 18 July 2021, showed that the cerebellar tonsils that had been in the foramen magnum had been displaced even more and there was upward displacement of the cerebellum through the tentorial hiatus which was worse as well.

62. By the time that the further CT brain scan was carried out, regrettably there was no evidence of blood flow within the internal carotid arteries in the neck or at the skull base and this situation was irreversible and death inevitable.

THE AUTOPSY REPORT

63. I do not think the autopsy report adds very much to the clinical knowledge. The cause of death was cerebral oedema with herniation of brain structures sufficient to either cut off the blood supply or whatever the inflammatory process, to cause thrombosis within the main arteries going into the brain.

THE GENETIC STUDIES

64. A useful thought that this might have represented a genetic metabolic disease process generating cerebral oedema has been raised, but I could not see from the genetic studies that such a diagnosis was likely. For the record, no drugs were detected in the toxicology report or significant amounts of alcohol.

CONCLUSIONS AND OPINION WITH REGARD TO THE DIAGNOSIS

65. I have seen similar presentations to Gaia with severe viral encephalitis and strep pneumoniae meningoencephalitis, the latter being more than capable of generating thrombosis in the blood vessels coming out the brain. This can be acute and unsurvivable.

66. There have also been times over many years, but only rarely when an individual presents with cerebellar oedema like Gaia and nothing is found.

67. I am aware from the TOR there are questions raised as to whether this could have been an inherited metabolic disorder causing hyperammonemia and in the situation where there is no diagnosis, no condition should be removed from the diagnostic table until proved otherwise. I am not aware of any testing that was carried out and then what would have been the cause of the hyperammonemia if determined.

68. I would have wanted to ask the neuropathologist whether there was enough evidence to suggest this was a necrotising encephalopathy or encephalitis, which again can be a rare side effect of viral and autoimmune conditions.

69. I appreciate headaches were identified in Gaia over a number of years. 94% of the world will have headaches at some stage of their life and 4% at all times have chronic daily headaches. With Gaia the migraine headaches may have been a harbinger of something more sinister, but I do not think in the setting of a young woman having migraine, there would have been any tests that might have taken that diagnosis further. If Gaia had presented to a Neurologist such as myself, I do personally do MRI brain scans on I suspect more or less everyone. I appreciate this tactic will be criticised in some quarters on the basis that many of those scans will be normal.

70. I have been asked within the TOR to reflect on a number of issues as follows:

1. **The assessment and treatment plan of the admitting team**

1.1. The initial assessment was reasonable except for the constant consideration that this might have been alcohol or drugs without any evidence and if a family member had been present, this would have been excluded immediately. It does seem however that constant thought did impact on the rate at which investigation was undertaken. A CT brain should have been carried out sooner than happened, but if it was going to be reported as normal later, then it was almost certainly going to be reported as normal if it had been carried out some hours before.

2. **The advice given by the neurology specialist registrar**

2.1. This was appropriate and a decision was made not to do a lumbar puncture because of the cerebral oedema and so I do not quite understand why it was then attempted, though no spinal fluid was ever obtained.

3. **Interpretation of the initial CT head scan performed at about 13:14 on 18 July 2021**

3.1. As far as the interpretation of the initial CT scan was concerned, this was at fault and there was evidence of cerebral oedema.

4. **Had an emergency CT head scan been performed around the time of the admission, what might it be likely to have shown?**

4.1. If an emergency CT head scan had been performed around the time of admission, then this would also have likely shown cerebral oedema and evidence of raised intracranial pressure.

5. **Whether raised intracranial pressure (ICP) should have been considered at the time of admission: headache, vomiting, disturbed cerebration, likely SIADH - falling sodium despite infusion of Hartmann's solution?**

   5.1. Yes this should have been considered

6. **The role of ammonia testing in acute unexplained encephalopathy**

   6.1. The answer again in this situation is yes. To some extent the report of the CT brain scan being normal did cause the clinicians some difficulty with their thinking.

7. **The role of fundoscopy in the diagnosis of Gaia's raised ICP**

   7.1. My own view is that examination of the fundus by non-Neurologists in casualty situations can be misleading. So much depends on the skills of the operator and the cooperation of the individual which seems lacking at times.

8. **The role of CT and MRI head scan (cancelled at 13:05) and EEG (cancelled 13:02) in the diagnosis of Gaia's cerebral oedema and/or parenchymal change.**

   8.1. The appropriate analysis of the original CT brain scan would I am sure have led to MRI brain scanning. Once however the situation has deteriorated in a way that is described, then there was going to be no gain by doing MRI brain scanning. I do not think the EEG was going to add anything at that time, though it would have been helpful. Regrettably if the service is not available over a weekend, there is nothing that clinicians can do.

9. Proceeding to two LP attempts in an acutely unwell patient complaining of worsening headache during both procedures.

9.1. I am concerned over the desire to do the second LP once cerebral oedema has been identified. Once antibacterial and antiviral treatment had been introduced, strangely there is no great emergency to doing the LP which in any case did not happen by virtue I suspect of the agitation of Gaia. I do not think the dura was punctured in the LP and it may well be more her position and the rapid progression of her condition that led to the arrest rather than the failed LP itself. It is possible that the dura was punctured and then the needle mal-positioned. Usually there would be a degree of bleeding which tends to seal the hole under these circumstances, but it cannot be definitely excluded that an LP may have contributed to the decline. I think it is more likely that the morphine administered intravenously together with the positioning had a greater impact. I am not entirely sure why morphine was given as opposed to a titrated low dose of a tranquilising agent. Sometimes when an individual is so agitated with a worry about raised ICP, it is just important to give the antibacterial for meningitis, the antiviral agent for encephalitis, and a high dose of steroids to try and reduce the pressure inside the head.

10. Whether an earlier CT scan should have been arranged by the neurology specialist registrar (SpR) on reviewing Gaia at about 14:30 after the first LP attempt at 14:15.

10.1. The answer again is yes, but if the first scan had been reported as abnormal, then there may not have been a specific need.

11. The relevance and implications of the reporting times of the first CT scan (ordered 11:06, performed 13:07-13:17, resulted 13:11 and 13:40), and the second CT scan (ordered 16:11, performed 16:53-16:56, resulted 17:45, 18:16 and 18:20).

11.1. I do not think there is any challenge with the reporting times of the CT scans themselves. It must seem frustrating to family members when there has been such a tragedy, but a scan can be ordered at 11 o'clock and then not carried out for 2 hours. So much depends on how heavily booked is the scan unit and the degree of sickness of the other people who are being scanned. In retrospect Gaia clearly would have had the highest priority, but at the time of thinking about that first scan, her condition was not thought to be that acute.

12. Whether the proactive treatment for Gaia's raised ICP could have made a difference to the outcome?

12.1. I think the answer here has to be yes, even with the absence of a diagnosis. At any time, high dose steroids could have been administered to try and reduce the effects of the raised pressure inside the head. Most Neurologists and/or Neurosurgeons tend to use dexamethasone 16mg daily. Given that antibacterial antiviral agents had also been administered, there would not have been any risk to this treatment strategy.

12.2. Regrettably once the process of tonsillar herniation and both upward and downward misplacement of the brain across the tentorium and into the foramen magnum, then this was becoming unsalvageable. Whether or not

any kind of surgical decompression would have helped would have to be for neurosurgical opinion, but I doubt if it would have made any difference. Herniation upwards through the tentorium in my experience carried a poor prognosis as does progressive tonsillar herniation.

13. **Whether the early tonsillar herniation reported by the expert as 7.6mm on the first CT, and/or the further descent to 10mm on the second CT were recoverable? At approximately what time/stage would the damage to Gaia's brain have been irreversible?**

13.1. This is difficult to answer, but probably at some point shortly after the first scan was undertaken. If the raised ICP had been identified earlier, then steroids, intubation with ventilation and hyperventilation to reduce intracranial pressure would have been introduced.

14. **Whether the initial (unfounded and incorrect) assumption of Gaia being intoxicated could have delayed recognition and treatment of Gaia's raised ICP?**

14.1. I have little doubt that the initial as indicated unfounded and incorrect assumption of Gaia being intoxicated did delay recognition of treatment of her raised ICP. Although outside the brief of this assessment, I have experience of a very similar matter within my own clinical practice whereby a man with a brain stem and cerebellar stroke was sent away from a local casualty department on the basis of being intoxicated with alcohol. No family member was spoken to or allowed to accompany because it was within the COVID pandemic. The one thing that emerged on the same day as his discharge when I was seeing him, was that he had never drunk alcohol in his

life and the brain stem stroke stopping him speaking and slurring and being unsteady on his feet was caused by a blood clot generated by atrial fibrillation.

71. I regret that I am unable to think of any other tests that might contribute to the diagnosis here. The only problem I have is that I am not an expert in metabolic or genetic disease processes that could cause raised ICP and I could only invite the Trust and Lady Young to get an opinion in that direction and also a neurosurgical view as to whether or not any kind of decompression might have been effective.

72. Finally, there are definite problems with the management of Gaia. I still do not understand to this day why medical thinking during COVID changed so profoundly. I have given a series of lectures on how the COVID pandemic has affected healthcare philosophy. With her headaches, vomiting and confused state, she should have been treated immediately with antiviral therapy such as acyclovir, and ceftriaxone to cover bacterial meningoencephalitis. I think many Neurologists would have assumed there was raised ICP and given her high dose steroids as well as discussing the scans with the radiologist who mistakenly thought the first scan was normal.

73. Whether or not treating her explosive devastating cerebral oedema of unknown cause with steroids and hyperventilation would have reduced the ICP syndrome, whatever the cause, is a matter of conjecture. So much depends on the actual cause which is still not known.

74. This tragedy emphasises the need for sick people always to be accompanied when they are seen in a casualty or emergency setting. There needs to be early senior doctor involvement. Aggressive treatment needs to be introduced early whatever the cause. Often these treatments are given on an empirical basis. It might seem strange to non-medical people, that all we effectively have is the appropriate antibiotics for bacterial infection, acyclovir or equivalent to treat herpes simplex encephalitis and then high steroids to try and reduce the raised intracranial pressure or treat an autoimmune encephalitis. More complex immune treatments need far more planning and would not be done on an acute basis.

75. There also needs to be a thought that an individual is not having frequent epileptic fits. Without an EEG this can be an almost impossible clinical situation to handle. Correcting any abnormal biochemistry is important, but unless the sodium levels are very low as already indicated above, then there would normally be time to correct these over several days.

76. I hope, albeit that I now find myself at the end of a lengthy neurology career, that never again will we find ourselves in the situation whereby seriously ill people are not accompanied. Ill people require advocacy and an appropriate history process, which often the individual is unable to give themselves.

77. Once again, although stated at the beginning, having now spent so much time with these records and understood the terrible stresses that there must have been for the family (and the medical and nursing staff dealing with such a young person), I can only extend my deepest condolences.

EXPERT'S DECLARATION

I, Michael Gross, declare that:

1. I understand my overriding duty is to the Court, both in preparing reports and giving oral evidence. I have complied with and will continue to comply with that duty.

2. I am aware of the requirements of Part 35 and practice direction 35, the protocol for instructing experts to give evidence in civil claims and the practice direction on pre-action conduct.

3. I have set out in my report what I understand from those instructing me to be the questions in respect of which my opinion as an expert is required.

4. I have done my best, in preparing this report, to be accurate and complete. I have mentioned all matters that I regard as relevant to the opinions I have expressed. All of the matters on which I have expressed an opinion lie within my field of expertise.

5. I have drawn attention to all matters, of which I am aware, which might adversely affect my opinion.

6. Wherever I have no personal knowledge, I have indicated the source of factual information.

7. I have not included or excluded anything which has been suggested to me by anyone, including those instructing me, without forming my own independent view of the matter.

8. I will notify those instructing me if, for any reason, I subsequently consider that the report requires any correction or qualification.

9. I understand that this report will be the evidence that I will give under oath, subject to any correction or qualification I may make before swearing to its veracity and I may be cross examined on my report by a cross examiner assisted by an expert.

10. I have not entered into any agreement where the amount of payment of my fee is in any way dependant on the outcome of the case.

STATEMENT OF TRUTH

I confirm that I have made clear which facts and matters referred to in this report are within my own knowledge and which are not. Those that are within my own knowledge I confirm to be true. The opinions I have expressed represent my true and complete professional opinions on the matters to which they refer (April 2020).

I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth (October 2020).

I confirm that I have complied with the code of practice or conduct for experts of my discipline, namely neurology, neurophysiology, and rehabilitation, in all respects save as identified in the schedules or annexes at the back of this report. That schedule or annexe gives details of the action taken to mitigate any risk of error that might arise as a result. I would add that every attempt is made to follow the required expertise with complete objectivity in all respects (October 2023).

DR MICHAEL GROSS, MA MD FRCP **30 SEPTEMBER 2025**
CONSULTANT NEUROLOGIST

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EXPERT WITNESS INSTITUTE

Ms Catherine Mooney
UCLH Foundation Trust
2nd Floor West
250 Euston Road
London NW1 2PQ

14 October 2025

Our Ref: MG/SP.G.YOUNG
Your Ref:

Dear Ms Mooney and Lady Young,

MISS GAIA YOUNG (DECEASED)

I have been sent a further bundle of records in relation to Gaia. There is a significant overlap of this data, but there were one or two other points that needed to be highlighted and hence I have done this in narrative form.

That initial clerking on 18 July 2021 at 01:34 noted that Gaia was not making sense and that she "was not able to give me any information about what she has been doing today or how she is feeling, she kept repeating different statements like "I made a mistake", "I need to wait.""

The doctor asked if she had been drinking and she said, "not enough." The doctor asked about alcohol and initially she said yes, but then would not clarify further, and later she denied alcohol. The doctor said she could not smell alcohol; however she was behaving like she was intoxicated in some manner. She denied illicit drugs. The doctor went on to say, "at one point I asked about ringing her mother and she said no and then after she told me she had been out with her mother today. Later she was rolling around complaining of feeling sick, she could not follow instruction and would not open her eyes, and I could not get any further history from her." It was said that she called her mother's mobile once and there was no reply.

COMMENT

I have already flagged up the woeful failure in COVID with regard to taking a proper history and when that history was not available, and family members were not available in order to give a proper history, this has led to various levels of disaster. Whether or not this abject failure towards a sick individual would have led to a different outcome is a different question. This was 16 months after the onset of the initial COVID pandemic chaos. Not getting a proper history is unacceptable. As far as the doctor was concerned at this level, they presumably were having to follow the advice of the hospital even though they were at a registrar level. It should have been obvious as far as I am concerned that this young person should not have been considered to either have alcohol or drug toxicity and they should have been referred for scanning and further investigation. That actually becomes even more apparent when the biochemistry was found to be abnormal.

At 3 o'clock with a further review by the same person there seems to be once again an obsession with whether or not she had been drinking and at that point Gaia was referred to the medical team.

INVESTIGATION

The investigation on admission did reveal a number of abnormal tests, but I do not think there was anything in these abnormalities that would have actually assisted other than the reflection that it was unlikely that alcohol or drugs were involved.

There was a further note presumably on 18 July 2021 indicating that Gaia was said to be alert and orientated with a GCS of 15/15 and that she needed minimal assistance to go to the toilet and was a little unsteady on her feet.

There was a nursing note on 18 July 2021 at 06:20 which stated, "patient had reported/presented herself in the emergency department" (without stating the obvious, as it was made clear that no one could accompany her, it is not surprising that she "presented" herself).

There was a repeated narrative of her possibly being intoxicated on the basis of her behaviour and her pupil size. Once again there was said to be a contact with her mother, but they were unable to get through to her. It was said that Gaia could not cooperate with confirming that the telephone number they were using was correct and she was only nodding yes at 09:42 on 18 July.

It was on the ward round of Dr Hasford at 9 o'clock in the morning on 18 July 2021, when it was thought she might have encephalitis and at that point a CT head scan with contrast was recommended together with a lumbar puncture. There was a discussion with a Neurology SpR who agreed at 12:57 that although drugs were a possibility, it was necessary to rule out encephalitis. A Neurophysiologist was contacted to try and get an out of hours EEG, but that was not possible and could not be done until after the weekend.

The lumbar puncture was carried out or attempted at 14:15 on 18 July 2021. The procedure needed to be abandoned. There was a further attempt to do the lumbar puncture and then she became unresponsive. It was then noted she was not making any respiratory effort, and she became cyanotic.

COMMENT

As indicated in my initial assessment, I do not perceive the lumbar puncture had anything to do with her deterioration. It is likely that this was the natural history of this severe condition.

Thereafter the investigation did take place. Thereafter these extensive records just reflect on the observations made with Gaia intubated and ventilated together with a downhill course that tragically was going to lead to an inevitable demise.

COMMENT

This further large bundle of records does not add very much if anything to the totality of knowledge. Although the initial assessments were poor and scanning might have been done a little earlier, it does not seem that any particular treatment would have been beneficial. The challenge with regard to thinking about treatment is the absence of a definite diagnosis even after Gaia had passed.

Yours faithfully

Sent unseen and unsigned to avoid delay

Michael Gross MA MD FRCP
Consultant Neurologist