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TOXICOLOGY SUPPORT SERVICES, LLC

July 27, 2021

To the Honorable Rabbis of the Israeli Courts:

**Subject: Toxicological Evaluation Pertaining to the Potential for
Coagulopathies, Impaired Fertility and Maintenance of Pregnancy
Due to the Covid-19 Gene Therapies**

Dear Rabbis,

My name is Dr. Janci C. Lindsay, Ph.D. I am the Director of Toxicology and Molecular Biology for Toxicology Support Services, LLC. I have over 30 years of scientific experience, primarily in the areas of immunology and toxicology. My thesis work was in the area of pulmonary toxicology, in genetically modified mouse models of pulmonary fibrosis. I have an extensive immunological background. I have had my own consulting company for 11 years and have consulted as an Expert Witness in Toxicology for 17 years and have conducted research into molecular mechanisms of disease as it relates to varying pathologies and disease states, including cancers, immune mediated and auto-immune pathologies, as part of that work. Attached for your reference is my CV (**Appendix A**).

I was not able to speak to you today due to time constraints. However, I believe that you heard excellent testimony from several physicians and scientists that I am very familiar with and highly respect. I agree with their assessments. I am sincerely concerned for humanity, as all the respected tenants of the scientific method and scientific foundations such as “herd immunity”¹ have been upended and re-defined to

¹ Traditionally, herd immunity has described immunity obtained from natural infection and augmented by vaccination. During this “pandemic” the definition has been erroneously altered (Fauci and WHO) to attribute herd immunity to solely or primarily being obtained through vaccination, despite knowledge that greater than 90% of individuals show pre-existing antibody reactivity to SARS-Cov-2 (without vaccination) and natural infection is known to be far superior to vaccination at guarding against future infection. Majdoubi et al. A majority of uninfected adults show pre-existing antibody reactivity against SARS-Cov-2. JCI Insight. 2021;6(8)
<https://doi.org/10.1172/jci.insight.146316>

drive this vaccination campaign. Additionally, although we are thousands of times above the “safety signal” number of 186 deaths that Dr. Peter McCullough, MD has testified² that would have typically halted these vaccines in the past, there seems to be no stopping, and no independent safety boards overseeing the vaccinations, as would be typical to a brand new type of vaccine using brand new technology. This, despite outcry from thousands of well-respected scientists and physicians. Further, there is no rationale to the lockdown response as the CDC and WHO’s own guidance from 2006 shows that almost every step taken went counter to previous scientific assessments of efficacy and risk/reward, in terms of morbidity, mortality and financial impact for similar viruses such as influenza.³ I originally authored this report some time ago on May 22, 2021 to be used as part of an FDA petition to stop the Covid-19 vaccine campaigns. I have attached an addendum statement to the back of this report which updates a couple of the studies done since, as well as the VAERS numbers and have asterisks to the numbers which also update them, throughout.

In the mid-1990s I was part of a research team that was working on the development of a contraceptive vaccine, the Zona Pellucida (ZP) vaccine. The ZP vaccine was intended to cause temporary contraception in humans, but ended up causing immune-mediated ovarian destruction in test animals, despite amino acid comparison analyses that indicated that this should not be the case.^{4,5} Due to the sterility finding in animal studies, it was halted for purpose in humans and has since been employed in various animal populations as a method of non-reversible sterilization.⁶ Due to my experience with the zona vaccine and the unexpected auto-immune reaction that was elicited, I well know the potential for unintentional significant reproductive harm from potential cross-reactions to proteins important for reproduction.

Credible Potential for Reproductive Harm

Therefore, I have felt compelled to warn of what I feel is the very real potential for all of the gene therapy vaccines to cause fertility and reproductive impairment in both males

² For comparison, halting of the swine flu vaccine campaign in the 1976 occurred after just 53 deaths due to Guillain- Barre. We are at an excess of 11,000 deaths from the Covid-19 vaccine campaign. Miller et al. 2015. Deaths Following Vaccination, what does the evidence show? *Vaccine*. June 26:33(29):3288-3292. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4599698/>

³ Ingelsby et al. 2006. Disease Mitigation Measures in the control of Pandemic Influenza. *Biosecurity and Bioterrorism: Biodefense Strategy, Practice and Science*. Vol.4 No. 4. <https://www.aier.org/wp-content/uploads/2020/05/10.1.1.552.1109.pdf>

⁴ National Institutes of Health Health Record. Oct 10, 1994. Vol. XLVI No, 21. Downloaded April 21, 2021 <https://nihrecord.nih.gov/sites/recordNIH/files/pdf/1994/NIH-Record-1994-10-11.pdf>

⁵ Lou *et al.* 1995. A zona pellucida 3 peptide vaccine induces antibodies and reversible infertility without ovarian pathology. *J of Immunol* 155 (5) 2715-2720

⁶ R.Naz (2011). Contraceptive Vaccines, Success, status and future perspective. *American J of Reproductive Immunology*. Vol. 66 pp.2-4

and females due to cross-reactions with syncytin proteins (Syn-1 and Syn-2). My reproductive concerns echo others' concerns in the observations that the close conformational and functional similarity of the SARS CoV-2 spike protein to the Syncytins--proteins essential for reproduction, could elicit a cross-reactive auto-immune reaction targeted to these proteins which could impact reproductive endpoints.^{7,8} These proteins share many functional and conformational similarities to the CoV-2 spike protein and as such could be a target of any immune response directed towards the spike protein.⁵ Famed virologist and vaccine developer, Dr. Bill Gallaher, now retired, has published a sequence and beta-sheet comparison analysis of the viral spike protein against those of the Syn-1 and Syn-2 proteins.⁵ His work shows a startling conformational similarity at the beta-sheet level between these proteins. In correspondence with Dr. Gallaher, he relayed that he did try to warn the vaccine developers, both privately and publicly, that he felt there was a valid worry for cross-reaction to the syncytins, as well as the possibility of immunosuppression from a peptide region within the spike protein that is known to have these properties. I feel that these credible concerns, at the very least, warrant that proper immunological studies be carried out to test for potential reactivity of those vaccinated with the gene therapy Covid-19 vaccines, against the syncytin 1 and 2 proteins. Dr. Gallaher's original February 13, 2020 article is attached as (**Attachment B**)

This issue of a potential for cross-reaction to the Syncytins through the use of this still very experimental gene therapy was brought up by varying scientists over a year ago, yet I have still not seen a single laboratory immunological study which demonstrates that this potential has been experimentally rather than theoretically, addressed. This, despite the fact that these types of assays are quite easy to conduct and would most likely take the space of a day to do a pilot study (based on my personal experience of doing hundreds of immunoassays over the years).

Since the vaccine roll out on December 14, 2020, we have seen 100⁹ cases of miscarriage reported in VAERS. While VAERS is not perfect, it is the only reporting system we have to track adverse outcome in the US in a centralized manner. A Harvard Grant Study aimed at improving the system's data collection, noted the following:

“Adverse events from drugs and vaccines are common, but underreported. Although 25% of ambulatory patients experience an adverse drug event, less than 0.3% of all adverse drug events and 1-13% of serious events are reported to the Food and Drug

⁷ Bruno, R.(2020) Why Covid-19 vaccines might affect fertility. *Sciencias Salud Natural*.
<https://cienciassaludnatural.com/studio/why0covid-19-vaccines-might-affect-fertility/>

⁸ Gallaher, B. Response to nCoV2019 Against Backdrop of Endogenous Retroviruses - SARS-CoV-2 coronavirus / nCoV-2019 Evolutionary History – *Virological*. Feb 13, 2020 [Response to nCoV2019 Against Backdrop of Endogenous Retroviruses - SARS-CoV-2 coronavirus / nCoV-2019 Evolutionary History - Virological](#)

⁹ As of July 17, 2021, we have seen 1073 cases of miscarriage reported in VAERS related to the Covid Vaccines.

Administration (FDA). Likewise, fewer than 1% of vaccine adverse events are reported. Low reporting rates preclude or slow the identification of “problem” drugs and vaccines that endanger public health. New surveillance methods for drug and vaccine adverse effects are needed.”¹⁰

Because the immunological tests are quite easy and because sufficient time has passed for this question to have been properly addressed experimentally, I can only conclude that there is not proper and ethical scientific oversight with respect to protecting against or monitoring the adverse events related to these gene therapy vaccines. Neither, is acceptable.

I have also not seen a single animal reproductive study published by any of the pharmaceutical companies involved in the gene therapies, or anyone else for that matter. There has been plenty of time for this endpoint to be looked into in animal studies and even partially investigated in the human test subjects who are now part of the phase 3 clinical trials for the vaccines. This is not an endpoint we can afford to skip based on what we have already seen, the credible case for cross reaction, the lack of studies which address this and reproductive endpoints in general, and the potential impact on humanity.

Therefore I demand that all trials and vaccinations be halted until the reproductive/fertility issues can be better investigated. We should **never** immunize our children, or adults of reproductive age, with these gene therapies until we know definitely, that it will not harm their ability to have their own children someday.

Analysis

In December of 2020, I ran across the now much-maligned Yeadon and Woodarg Motion/Petition to the European equivalent of the FDA, asking them to stop all vaccinations with the gene therapies until further safety studies had been done.¹¹ I was concerned by the assertions, but I was not surprised given the “rush” and sidelining of typical vaccine safety studies. I decided to do a little digging of my own. I found that their worries did have a valid scientifically-based concern with respect to the fertility/reproductive biology claims and the proteins Syncytin-1 as well as Syncytin-2 (Syn-1,2). If the vaccines can in fact elicit an antibody-mediated reaction to these native proteins in both placenta, ovaries sperm and testes, then this could impair fertility and potentially cause sterility.

¹⁰ Grant Final Report. Grant ID: R18 HS 017045. Electronic Support for Public Health–Vaccine Adverse Event Reporting System (ESP:VAERS) <https://digital.ahrq.gov/sites/default/files/docs/publication/r18hs017045-lazarus-final-report-2011.pdf>

¹¹ Yeadon and Woodarg Petition to the EMA https://2020news.de/wp-content/uploads/2020/12/Wodarg_Yeadon_EMA_Petition_Pfizer_Trial_FINAL_01DEC2020_EN_unsigned_with_Exhibits.pdf

I also ran across studies which indicate that there are also non-reproductive tissues which express these proteins such as myoblasts in skeletal muscle, ¹² as well as the syncytins' recently elucidated roles in neurodegenerative auto-immune diseases such as Multiple Sclerosis and neuropsychological disease states such as Schizophrenia and Bipolar depression, in which Syncytins have been shown to play a role^{13,14,15}

I feel there are also valid additional concerns regarding auto-immune potential to multiple other antigens and Antibody Dependent Enhancement (ADE) as covered in the Yeadon petition as well as in a publication by Dr. James Lyons-Weiler.¹⁶ A consensus summary report of a meeting held to discuss this very potential, was also prepared by the Coalition for Epidemic Preparedness Innovations (CEPI), the Brighton Collaboration (BC) and the Safety Platform for Emergency Vaccines (SPEAC).¹⁷ ADE seems also probable given the former observations of previous coronavirus vaccine efforts which failed in the "challenge" phase by actually increasing the immune response to often lethal levels, following immunization, rather than having the opposite effect.¹⁸

Syncytin 1 and 2 Play key Roles in Placentation and Sperm-Oocyte Fusion

Syncytin-1, a protein encoded by the ERVW1 gene, is a protein involved in cell invasion and fusion and thus its role in placentation where it is highly expressed during implantation and development of the placenta, and in the oocyte and sperm head where it plays a role in penetration of the oocyte.^{19,20,21} Syncytin-2 has also been shown to play

¹² Bollette Bjerregard *et al.* (2014). Syncytin 1 in differentiating human myoblasts: relationship to caveolin-3 and myogenin. *Cell Tissue Research* 357:355-62 <https://pubmed.ncbi.nlm.nih.gov/24902667/>

¹³ Wang, X. *et al.* (2018). Human endogenous retroviral envelope protein syncytin-1 and inflammatory abnormalities in neuropsychological diseases. *Front Psychiatry* 9:422. <https://www.frontiersin.org/articles/10.3389/fpsy.2018.00422/full>

¹⁴ Dolei *et al.* (2015). The aliens inside human DNA: HERV-W/MSRV/syncytin-1 endogenous retroviruses and neurodegeneration. *Journal Infect. Dev* <https://jicd.org/index.php/journal/article/view/26142666>

¹⁵ Dolei *et al.* (2018). The aliens inside us: HERV-W endogenous retroviruses and multiple sclerosis. *Multiple Sclerosis Journal* Vol 24 (1) 42-47 <https://journals.sagepub.com/doi/epub/10.1177/1352458517737370>

¹⁶ Lyons-Weiler, J. (2000). Pathogenic priming likely contributes to serious and critical illness and mortality in COVID-19 via auto-immunity. *Journal of Translational Autoimmunity* (3). <https://www.sciencedirect.com/science/article/pii/S2589909020300186>

¹⁷ Lambert *et al.* (2020) Consensus summary report for CEPI/BC March 12-13, 2020 meeting: Assessment of risk of disease enhancement with COVID-19 vaccines. *Vaccine* Accepted May 21, 2020

¹⁸ Tseng *et al.* (2012) Immunization with SARS Coronavirus Vaccines Leads to Pulmonary Immunopathology on Challenge with the SARS Virus. *PLoS ONE* 7(4): e35421. doi:10.1371/journal.pone.0035421

¹⁹ Bjerregaard, *et al.* (2014) Syncytin-1 and its receptor is present in human gametes. *J. Assist Reprod Genet* 31:533-39. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4016377/>

a role in trophoblast invasion in placentation.^{22,23} Contraceptive vaccines in development for decades, have targeted the sperm/egg fusion machinery as well as proteins and hormones important in successful embryo implantation and maturation, illustrating the essential role of these proteins in reproductive functions.^{24,25}

There is a Credible Indication that there are Sequence as Well as Structural Homology between the Covid Spike Protein and Syn-1 and Syn-2

The spike protein of the SARS COV-2 contains a smaller region, a peptide known as CP-1 which is particularly antigenic and it is this region that purportedly contains the sequence which is homologous to the Syncytin-1 protein in humans and primates.²⁶ If this in fact the case, that the viral spike protein and syncytin-1 carry any similar amino acid sequence while also performing a similar cell function in fusion (sperm fusion to egg in humans, virus fusion to cells in SARS), then it would be important to make sure that there was no cross-reactivity to Sync-1 in fact, rather than just postulating that there should not be.

It seems that all of the gene therapy vaccines use either the spike protein in full or some portion of the spike protein of SARS CoV-2.^{27,28,29,30,31} Therefore I will quote others'

²⁰ Roberts *et al.* (2021) Syncytins expressed in human trophoblast. *Placenta*
<https://doi.org/10.2016/j.placenta.2021.01.06>

²¹ Soygur et al. (2016) Expression of Syncytin 1 (HERV-W), in the preimplantation human blastocyst, embryonic stem cells and trophoblast cells derived in-vitro. *Human Reproduction* Vol. 31 No. 7 pp 1455-1461

²² Vargas *et al.* (2009) Syncytin-2 plays an important role in the fusion of human trophoblast cells. *J Mol Biol* . Sep 18;392(2):301-18. doi: 10.1016/j.jmb.2009.07.025. Epub 2009 Jul 16. <https://pubmed.ncbi.nlm.nih.gov/19616006/>

²³ <https://www.proteinatlas.org/ENSG00000242950-ERVW-1/tissue>

²⁴ Gupta, S et al. 2009. Vaccines for immunological control of fertility. *Reprod med Biol*. Dec 1;9(2): 61-71

²⁵ Gupta, S. et al. 2014. Milestones in contraceptive vaccines development and hurdles in their application. *Human vaccine immunotherapy*. 10(4):911-25

²⁶ Liu et al. 2004. Interaction between heptad repeat 1 and 2 regions in spike protein of SARS associated corona virus: implications for virus fusogenic mechanisms and identification of fusion inhibitors. *Lancet. Mechanisms of Disease*. Vol. 363. <https://www.sciencedirect.com/science/article/pii/S0140673604157887>

²⁷ Walsh et al. 2020. Safety and immunogenicity of Two RNA Based Covid-19 Vaccine Candidates. *NEJM*.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7583697/>

²⁸ DeClercq, et al. 2006. Potential antivirals and antiviral strategies against SARS coronavirus infections. *www.futuredrugs.com*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7665879/>

²⁹ Schutz et al. 2020 Peptide and peptide-based inhibitors of SARS-CoV-2 entry. *Advanced Drug Delivery reviews*.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7665879/>

findings with respect to the veracity that these proteins are similar in sequence and function in these regions between the immunogen spike protein, and Syn-1 and 2.

A quote from a Pfizer spokesperson debunking theories that the vaccine will cause a cross-reaction to Syn-1, reads as follows:

“It has been incorrectly suggested that Covid-19 vaccines will cause infertility because of a shared amino acid sequence in the spike protein of SARS-CoV-2 and a placental protein,” ... “The sequence, however, is too short to plausibly give rise to autoimmunity.”³²

Another post from a Dr. Edward Nirenberg reports that:³³

“There is a sequence of 5 amino acids (there is a divergence for one of them, or else it would be 6) which is shared between the spike protein and the syncytin-1 protein”; and also:

“There is a stretch of 9 amino acids with 66% sequence identity between syncytin-1 and SARS-CoV-2 spike”

It is vital to note that the argument against cross reactions to Syncytins and resulting downstream effects, is based primarily on the argument that there is not sufficient amino acid similarity between the spike protein of SARS Cov-2 and the Syncytins to elicit this response. However, I believe that this is thoroughly “debunked” by virologist Dr. Bill Gallaher, PhD, who shows that there is a great deal of conformational homology at the beta sheet level. Dr. Gallaher published his analysis in February of 2020.

Virologist Bill Gallaher Publishes Post Warning of Similarity between the SARS Spike Proteins of Covid-19 and Syncytin1 and 2 in February of 2020

Dr. Gallaher gives the most complete comparison of the sequences and potential for structural homology at the beta sheet level within the publication: **“Response to nCoV2019 Against Backdrop of Endogenous Retroviruses”** Dr. Gallaher has since revised his initial post which is mostly contained within this report, and attached as

³⁰ Safety and immunogenicity of an rAd26 and rAd5 vector-based heterologous prime-boost COVID-19 Vaccine in two formulations: two open, non-randomised phase 1 / 2 studies from Russia. <https://www.thelancet.com/action/showPdf?pii=S0140-6736%2820%2931866-3>

³¹ Liu et al. 2004. Interaction between heptad repeat 1 and 2 regions in spike protein of SARS associated corona virus: implications for virus fusogenic mechanisms and identification of fusion inhibitors. Lancet. Mechanisms of Disease. Vol. 363. <https://www.sciencedirect.com/science/article/pii/S0140673604157887>

³² Duffy. B. No Evidence that Covid-19 Vaccine Results in Sterilization. AP News. December 8, 2020. <https://apnews.com/article/fact-checking-afs:Content:9856420671>

³³ Nirenberg. E Are Covid Vaccines Going to Cause Infertility? <https://edwardnirenberg.medium.com/are-covid-19-vaccines-going-to-cause-infertility-939bbdb62b64>

(Attachment B). He has expanded his post to include the additional potential for immune suppression in the immunized host via a peptide region on the spike protein. Gallaher related the following facts with respect to the similarity of the Syn-1 and Syn-2 regions to the Covid Spike Proteins in his post as follows:

“The spike protein belongs to Class I of fusion-entry proteins. These are constructed of a series of structural and functional domains and motifs that may be highly conserved in localized regions. Insofar as sequence motifs of nCoV2019 show high similarity to the Class I fusion/entry proteins of endogenous viruses expressed as part of the human genome – to which we would be expected to be tolerant – response to nCoV2019 could be significantly affected. Indeed, alignment of the endogenous elements Syn1 found on human chromosome 7, or Syn2 found on chromosome 6, or HERV-K expressed from chromosome 6, all show a number of sequence motifs with significant similarity to nCoV2019 spike protein.” ***“The first region comprises the majority of Wuhan HR1a of S2, with the corresponding region of HERV-W (Syn1). Basically, the alignment shows that HR1a of nCoV2019 and HR1 of Syn1 are directly related to one another.***

	<pre> :::* . : : : *** : . * . * ** ** :*: * . : . . . :. </pre>
BatRaTG13	LIANQFNSAIGKIQDLSSTASALGKLQDVVNQNAQALNTLVKQLSSNFGAIS
Wuhan	LIANQFNSAIGKIQDLSSTASALGKLQDVVNQNAQALNTLVKQLSSNFGAIS
HERVW	---QELNGDMERVADSLVTLQDQLNSLAAVVLQNRRALDLLTAERGGTCLFLG-

[Parallel HR1a and HERVW HR1899x151 39.1 KB](#)

“A second region of nCoV2019 that is of unknown function is the amino terminal region of S2, that in Wuhan follows the novel RRAR furin cleavage site I first disclosed here in January. This region of nCoV2019 also convincingly aligns with both Syn2 as well as HERV-K. Shown first is the alignment with Syn2, with an extraordinary, nearly identical hexapeptide in each.”

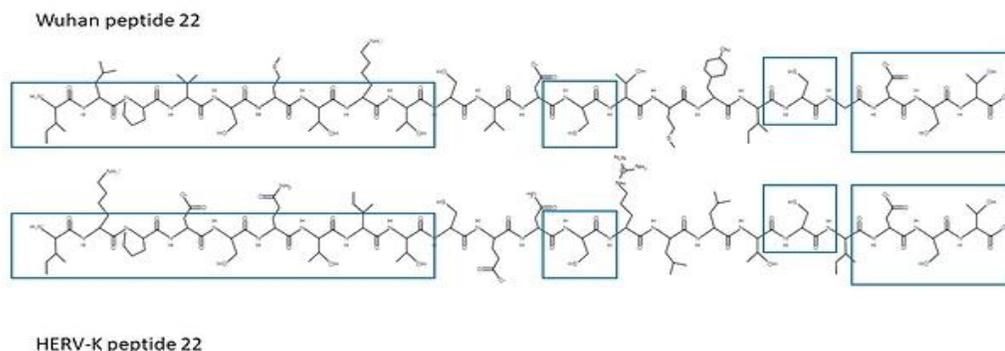
	<pre> * . : : * : * : : . : : . . . : : * * * * : * : * </pre>
BatRATG13	--SNNSIAIP--TNFTISVTTEILPVSMTKT-SVDCTMYICGDST-ECSNLLL
Wuhan	--SNNSIAIP--TNFTISVTTEILPVSMTKT-SVDCTMYICGDST-ECSNLLL
Syn2	TIATSYLGISAVSEFFGTSLTPLFHFHISTCLKTQGAFYICGQSIHQCLP---

[Wuhan vs HERV FRD Syn2898x162 37.3 KB](#)

“Over the same region, there is also an extraordinary similarity with HERV-K.”

	* * * * *	:*	:	* **
BatRaTG13	TEILPVSMTKTSVDC	TMYICGD	STEC	S
Wuhan	TEILPVSMTKTSVDC	TMYICGD	STEC	S
HERVK	IVIKPDSQTI	TCE	NCRL	LLTCIDSTFN-

“Note that identical amino acids tend to be in every other position. In a beta sheet, these would lie on one side of the sheet, rendering its stereochemistry from that aspect identical, as shown in the following figure.”



“Within the boxed regions, stereochemistry is identical. Any element of the host response that has seen the one in HERV-K would be expected to respond identically to that within nCoV2019.”

Gallagher’s sequence analysis and more importantly, conformational analysis, clearly shows that there is valid reason to be concerned for a cross reaction to both Syncytin-1 and Syncytin-2. His analysis provides evidence that there is high homology between the immunogen spike proteins and these Syncytin proteins that are vital for reproduction.

Gallagher goes on to surmise that the vaccine may not work properly because we as humans have learned to tolerate these proteins because they are so similar to “self” proteins. I would add here that November of 2020, early on a paper was published noting some significant differences in glycosylation between the wild type spike protein and that conferred through mRNA-directed expression of the spike protein.³⁴ This has important implications for tolerance versus neutralizing of the immunogen spike as well as how the spike proteins are processed and shed. Gallagher later comments back to his own article that another more sinister possibility is that we will develop an aberrant hyper-response to these proteins now seen as **“ALTERED SELF”**:

³⁴ Brun et al. (2020) Analysis of SARS-CoV-2 spike glycosylation reveals shedding of a vaccine candidate Rxiv. November 2020.

“Another, far different, scenario comes to mind. Where there is significant similarity to endogenous retroviral peptide motifs, the human host may see them as “ALTERED SELF”. That MAY be a prescription for an allergenic response, such as those that happen when haptens (e.g. penicillin) bind to host proteins. The development of reaginic antibody (IgE) responses may be elicited, or delayed type hypersensitivity from the T-cell arm of the human response.

Regions that may be recognized as altered self may be deleterious if included in any vaccine formulation. There was in fact a SARS vaccine used in mice that elicited an allergic response upon challenge.

So, we already know that the fusion peptide(s) and aromatic-rich regions of coronaviruses have properties that make them potentially cytotoxic. Now we know of regions that may be reaginic.”

In formulating a vaccine without allergic or cytotoxic side effects, we may have a problem here.”

So here Gallaher is now postulating a more sinister response to a vaccine to these regions---the body seeing the vaccine as “altered self” and destroying these proteins in an immunological T-cell mediated attack.

Debunking Articles do not “Debunk” the Contentions that the Vaccine Could Cause Fertility Complications

A blog article by Dr. Edward Nirenberg attempts to debunk that the vaccine will have any impact on fertility or reproduction rates. He uses as his rationale, a study by Rotschenker-Olshinka et al. in 2020. This study reports that there were no increased rates of miscarriages in asymptomatic women, during the Covid pandemic study period as compared to prior to the study period.³⁵ This of course begs the question as to whether there was an increased rate of such in symptomatic women. However, symptomatic patients were not studied in this cohort, nor were the patients tested for Covid positive status. This study also included an “n” of only 113 women, an extremely small study group. Even the authors themselves concede that it remains to be seen if Covid has an impact on the larger population in terms of reproductive rates—hardly an endorsement for a lack of effect of the virus on fertility and pregnancy rates.

There have been Multiple Miscarriages Noted in Pregnant Women Receiving the Covid Gene Therapy Vaccines

There have been 100 reports entered into VAERS of miscarriages through April 9, 2021, following the gene therapy vaccination efforts.³⁶ Some of this have been late term

³⁵ Rotschenker-Olshinka et al. Covid 19 pandemic effects on early pregnancy: are miscarriage rates altered, in asymptomatic women? Archives of Gynecology and Obstetrics.

³⁶ www.openvaers.com

which is more unusual than earlier term miscarriages and occurred in women with formerly healthy pregnancies by most accounts.³⁷ Since VAERS is only estimated to contain a small portion of all adverse reactions, this number is in all probability, much higher.

Natural Infection with the Virus has been shown to Impair Spermatogenesis Suggesting that a Part of the Natural Immune Response to the Spike Protein Impacts Fertility

Recent studies have shown that natural infection with the virus seems to impact fertility in males which insinuates that natural immune reaction to some immunogen native to the virus might cross react with a protein/factor important for fertility/reproductive success such as Syn-1.³⁸ The authors of the study which found that COVID-19 viral particles were in the testes of men who died of the virus as well as in the testes of a live donor with impaired spermatogenesis. While the receptor for SARS which is also expressed in the testes has been implicated to be responsible for these findings, Syncytins have not been investigated. This is further proof that making a vaccine to the spike protein could indeed impact fertility and that this is an endpoint that must be tested.

More recent “debunking” posts cite that 34 women became pregnant during the trials as evidence that there should be no concerns for reproductive harm. There was no other information as to group, dose, or outcome and no detailed reports from the pharma companies on these events which are required to be tracked via their study design submission.³⁹

I find it scientifically irresponsible to attempt to use such small studies of pregnancies, where Covid testing was not even performed, or a small number among the hundreds of women in the trials, getting pregnant, to bolster the position that the vaccine will have no impact on fertility or reproduction. It is a well-accepted fact that when vaccines have caused adverse events in the past, that were seen as intolerable, that it only affected some of the group immunized, not ALL the group. Therefore; citing that there have been a pregnancies in the clinical trials with no additional information and/or no reproductive studies in animals hardly gives confidence that there will not be reproductive issues.

Covid can cause Placental Injury

³⁷ See individual descriptions in www.openVAERS reports using the age search parameters

³⁸ <https://beta.documentcloud.org/documents/20404854-histopathology-and-ultrastructural-findings-of-fatal-covid-19-infections-on-testis>

³⁹ Nebraska Medicine. You asked, we answered: Can mRNA Vaccines Cause Infertility? December 17, 2020 <https://www.nebraskamed.com/COVID/you-asked-we-answered-can-mrna-vaccines-cause-infertility>

A study of the placentas of 16 women with Covid found that the placentas of these women were injured by the virus. The authors of the study postulated that the effect was due to abnormal clotting induced by the virus.^{40,41} Their conclusions were as follows:

“Relative to controls, COVID-19 placentas show increased prevalence of decidual arteriopathy and other features of MVM, a pattern of placental injury reflecting abnormalities in oxygenation within the intervillous space associated with adverse perinatal outcomes. Only 1 COVID-19 patient was hypertensive despite the association of MVM with hypertensive disorders and preeclampsia. These changes may reflect a systemic inflammatory or hypercoagulable state influencing placental physiology.”

Interestingly, an inducible knockout of Syncytin-A gene leads to extensive vasculature deficiency reminiscent of pre-eclampsia and these mice cannot carry to term.⁴² Also, the spike protein interacting with endothelial cells and/or expressed on platelets has been shown to be the probable culprit in the coagulopathies that have arisen post-vaccination. This supports a potential role Syncytin and spike protein in the findings above, following infection with the native virus as well as vaccination with the gene therapies.^{43,44}

Clear Efforts to Debunk Any Question Regarding Potential Adverse Effects on Fertility from the Gene Therapy Vaccines Despite the Lack of Formal Reproductive Studies or any Hard Data Supporting Such Conclusions

What is baffling to me is the doggedness of the manufactures and their consultants to waiting until the reproductive and fertility safety studies have been completed, before assuring the public (as these articles are doing make no mistake), that there will be no long-term effects on reproductive endpoints. Scientifically, this is highly irresponsible as they can't possibly know the outcome and ANY suggestion that there could be an impact due to cross reaction to proteins important in reproduction should be taken seriously. The trial participants were instructed to maintain contraceptive measures to be part of the trial. Vaccine recipients are also cautioned against making any efforts to get pregnant for a period of time after receiving the vaccine. These age groups which would be impacted if there were reproductive harm are not even at any significant risk

⁴⁰ <https://news.wttw.com/2020/06/04/northwestern-study-pregnant-women-covid-19-finds-placenta-injuries>

⁴¹ Goldstein, JA et al. 2020 Placental Pathology in COVID-19. *American Journal of Clinical Pathology*, 2020; DOI: [10.1093/ajcp/aqaa089](https://doi.org/10.1093/ajcp/aqaa089)

⁴² Shin Qiao et al. 2017 Inducible knockout of syncytin-A gene leads to extensive placental vascular deficiency, implications for preeclampsia. *Clin Chim Acta Nov.* 474:137-146

⁴³ Zhang et al. (2020) SARS-CoV-2 binds platelet ACE2 to enhance thrombosis in COVID-19. *Journal of Hematology & Oncology*. 13:120 <https://doi.org/10.1186/s13045-020-00954-7>

⁴⁴ Lei et al. 2021 SARS CoV-2 Spike Protein Impairs Endothelial Cell Function via Down-Regulation of ACE 2. *Circulation Research*. Vol 128;1323-26

for morbidity or mortality from the virus so why in the world would it even be indicated for them to get a vaccine that had not completed standard safety trials in these important areas if there was any evidence for a potential cross-reaction?

Sera from Covid-19 Vaccine Trial Participants both Male and Female Could be Tested for Antibodies to Syncytin-1 and 2 through simple ELISA assays

There is a very simple way to test the theory that the vaccine might cause a cross reaction to the Syncytin proteins. Simply test the sera of a representative number of all the study participants for antibodies to these proteins. There are Syn-1 and Syn2 recombinant proteins as well as monoclonal and polyclonal antibodies for both available on the open science market that could be used in an ELISA assay to measure for the presence antibodies and settle the debate and the concerns, quite easily.

There Only Appears to Be One Clinical Study Evaluating Reproductive Endpoints in Men at this Time

There is now a clinical research reproductive study of sperm in vaccinated men going on with 60 trial participants which started December 20 and will end in June by Dr. Ramasamy, the same urologist who found that the virus in Covid patients, impacted spermatogenesis. There are no other clinical studies going on in humans that I could find which are tracking reproductive endpoints.

Other Scientists are Raising the Cause for Concern Re the Syncytins

Dr. Roxana Bruno has also recently written a review mirroring many of my concerns: "Why Covid-19 Vaccines Might Affect Fertility".⁴⁵ In her paper she covers the myriad of potential immune effects of a cross reaction through Covid gene therapies including disrupting immune systems which prevent the fetus from attack by the Mother's antibodies. As stated previously Drs. Yeadon and Woodarg also brought up the potential for this cross reaction to the Syncytin proteins.

Conclusions

In conclusion, I think that there is credible evidence through 5 lines of evidence that coagulopathies as well as fertility and reproductive endpoints must be examined with respect to the gene therapy vaccines. These may or may not be spike protein or syncytin-related but never the less deserve investigation:

- 1. There are similarities between the Covid-19 spike protein to which the gene therapies (vaccines) and peptide based immunogens are based and the human Syn-1 and Syn-2 proteins which are vital for spermatogenesis and implantation. Therefore, it is logical to surmise that an immune-mediated**

⁴⁵ Bruno, R. Why Covid Vaccines Might Affect Fertility. ScienciaySaludNatural.com <https://cienciaysaludnatural.com/estudio/why-covid-19-vaccines-might-affect-fertility/>

cross-reaction to these proteins could impair fertility and reproductive endpoints. This must be examined and ruled out with simple immunological assays.

- 2. Natural Covid infection has been shown to impair spermatogenesis in men and virus has been shown to localize to testes. Spike Protein infused in animal studies has also been shown to localize to the testes.**
- 3. Natural Covid infection has been shown to cause placental injury in some women and the mechanism is not known but may be related to Syncytins and/or spike protein.**
- 4. There are multiple reports in VAERS of pregnancies being lost shortly following vaccination in otherwise healthy normal pregnancies which indicate that the gene therapies may be potentiating this loss.**
- 5. Recent scientific studies on pregnancy loss in the vaccinated in the first trimester (82%) and auto antibodies (anti-syncytin 1) antibodies in the vaxxed but not unvaxxed bear out of what I and other have been warning of (see addendum).**

The SARS-CoV-2 Spike Protein Production Induced by ALL the Covid-19 Gene Therapy Vaccines, is Likely Inducing Coagulopathies

There is also a credible concern and indeed, clear proof, that the gene therapies which all induce the production of the SARS CoV-2 spike protein or some portion thereof, are causing coagulopathies in the vaccinated population. This is not surprising as a study in August of 2020 noted that 31% of patients with severe infection with Covid-19 in ICUs, were also noted to develop varying coagulopathies.⁴⁶ These coagulopathies were later found to be attributable to spike protein interaction with endothelial cells and/or immune mediated mechanisms directed towards spike proteins located on platelets.^{47,48} Additionally, in September of 2020, a paper was published that showed that SARS Cov-2 spike protein, infused *in-vivo* into mice with humanized ACE2 receptors on blood

⁴⁶ Klok *et al.* (2020). Incidence of thrombotic complications in critically ill ICU patients with Covid-19. *Thrombosis Research*. 191 145-7

⁴⁷ Zhang *et al.* (2020) SARS-CoV-2 binds platelet ACE2 to enhance thrombosis in COVID-19. *Journal of Hematology & Oncology*. 13:120 <https://doi.org/10.1186/s13045-020-00954-7>

⁴⁸ Mei *et al.* (2020) Thrombocytopenia and thrombosis in hospitalized patients with Covid-19. *Journal of Hematology & Oncology*. 13:161

platelets, developed multiple sites of thrombosis.⁴⁹ Since then, research has shown that spike protein incubated with blood cells *in-vitro* also induces blood clots.⁵⁰ A recent Salk Institute study also shows that spike protein causes reduced expression of ACE-2 on endothelial cells leading to an aberrant renin-angiotensin system response, coagulopathy and endothelitis.⁵¹

Coagulopathies are conditions under which any excessive bleeding or clotting is observed. The disease states in which coagulopathies are implicated include heart attack, stroke, embolisms, aneurysm, deep-vein thrombosis, and red blood cell and platelet abnormalities such as thrombocytopenia as well as genetic conditions which predispose to these pathologies.⁵² Prior to the recall of the J & J gene therapy vaccine for concerns over a reported 6 cases of thrombocytopenia, there were 103 reported cases of thrombocytopenia in Covid-19 vaccinated subjects reported in the Vaccine Adverse Event Reporting System (VAERS), between the Pfizer and Moderna gene therapy vaccines.⁵³ There are now 338 cases of thrombocytopenia or low blood platelet which have been reported in VAERS as of the April 9, 2021 updates, as well as 549 heart attacks, 686 strokes and 193 blood clots. While VAERS reports are not perfect they are the only centralized tool we have to estimate adverse events in the population receiving the gene therapies at this time and there is no question that VAERS reports under estimate the actual numbers of adverse events.

Conclusions:

- 1. There have been multiple reports of coagulopathies in patients who have the natural infection with the virus and this has been attributed to interactions of the spike protein.**
- 2. All the gene therapies direct the body to make the spike protein as the immunogen and there have now been multiple reports in VAERS following**

⁴⁹ Zhang *et al.* (2020) SARS-CoV-2 binds platelet ACE2 to enhance thrombosis in COVID-19. *Journal of Hematology & Oncology*. 13:120 <https://doi.org/10.1186/s13045-020-00954-7>

⁵⁰ Grobbelaar *et al.* (2021) preprint. SARS CoV-2 spike protein S1 induces fibrin(ogen) resistant to fibrinolysis: implications for microclot formation in Covid-19. *MedRxIV*

⁵¹ Lei *et al.* 2021 SARS CoV-2 Spike Protein Impairs Endothelial Cell Function via Down-Regulation of ACE 2. *Circulation Research*. Vol 128;1323-26

⁵² Coagulopathies. <https://www.sciencedirect.com/topics/neuroscience/coagulopathies>

⁵³ <https://vaers.hhs.gov/data.html>

the Covid-19 gene therapy vaccines. An animal model infused with spike protein demonstrated coagulopathies, in-vivo supporting that spike protein is capable of causing the coagulopathies seen.

3. It is now abundantly apparent that all the gene therapy vaccines are inducing multiple lethal and non-lethal coagulopathies. This is consistent with a spike protein-mediated mechanism similar to what was seen from natural infection, as well as what was seen when spike protein was infused into an animal model. Therefore, the gene therapies should be halted as each of the gene therapies directs the body to make all or portions of the spike protein.

Considerations with Respect to Pediatric Populations

Multiple studies show that infants and children are not at significant risk for morbidity or mortality from Covid-19. The infection fatality ration (IFR) is 0.003% for the 0-4 age group, 0.001% for the 5-9 age group and 0.001% for the 10-14 age group and 0.003% for the 15-19 age group.^{54,55} Other new estimates of the IFR for the global complete population including the elderly population, have put the age-averaged Covid infection fatality rates at just 0.15%, 1.5-2.0 billion infections.⁵⁶ This is many times below the original and mid-infection estimates of IFR that were predicted at the beginning and midst of the Covid-19 detection and spread.

The table below is taken from the following article which references the source as the *Nature* article cited in footnote 48.⁵⁷

⁵⁴ Covid Infection Fatality Rates by sex and age group. <https://www.acsh.org/news/2020/11/18/covid-infection-fatality-rates-sex-and-age-15163>

⁵⁵ Driscoll *et al.* (2020) Age specific mortality and immunity numbers of SARS CoV-2. *Nature* DOI:10.1038/s41586-020-2918-0(2020).

⁵⁶ Ioannidis, J. (2021) Reconciling estimates of global spread and infection fatality rates of Covid 19: An overview of systemic evaluations. *European Journal of Clinical Investigation*. 2021 51:e13354. <https://doi.org/10.1111/eci.13554>

⁵⁷ Covid Infection Fatality Rates by sex and age group. <https://www.acsh.org/news/2020/11/18/covid-infection-fatality-rates-sex-and-age-15163>

COVID Infection-Fatality Rates by Sex and Age Group
(Numbers are shown as percentages)

Age group	Male	Female	Mean
0-4	0.003	0.003	0.003
5-9	0.001	0.001	0.001
10-14	0.001	0.001	0.001
15-19	0.003	0.002	0.003
20-24	0.008	0.005	0.006
25-29	0.017	0.009	0.013
30-34	0.033	0.015	0.024
35-39	0.056	0.025	0.040
40-44	0.106	0.044	0.075
45-49	0.168	0.073	0.121
50-54	0.291	0.123	0.207
55-59	0.448	0.197	0.323
60-64	0.595	0.318	0.456
65-69	1.452	0.698	1.075
70-74	2.307	1.042	1.674
75-79	4.260	2.145	3.203
80+	10.825	5.759	8.292

The VAERS reports have multiple incidents of death and injury in previously healthy young adults following vaccination with the Covid gene therapies, with no other known pre-existing conditions.⁵⁸ Recently, a 2 year-old who was presumably healthy in order to be enrolled in the study, died 4 days after receiving the Pfizer vaccine in the clinical trial.⁵⁹ As seen from the chart above, in children overall, the risk for Covid-19 mortality, if infected, is less than 0.002%, which does not warrant the use of any experimental gene therapy or drug of any kind under emergency use authorization with speculative safety concerns.

Cardiomyopathies Have Been Noted in Young Teens who get the Covid-19 Vaccines

There have been several cases of cardiomyopathies (heart damage and inflammation) in otherwise healthy young adults and in teenagers reported into the VAERS system. This is an extremely alarming finding that is currently under investigation by the CDC. However, inexplicably to many health professionals including myself, the vaccine is still being distributed to our youth DURING the course of the investigation.⁶⁰

⁵⁸ Search parameters in open VAERS includes age parameters www.openvaers.com

⁵⁹ <https://www.openvaers.com/covid-data/1074247>

⁶⁰ <https://www.cdc.gov/vaccines/covid-19/clinical-considerations/myocarditis.html>

There Have Always Been Safe and Effective Treatments and Preventative Medicines to Treat Covid-19. They Were Quashed Over Profit

If any treatment is warranted it would make more moral and ethical sense, to use another therapeutic such as hydroxychloroquine or ivermectin with effective and safe toxicological profiles that have been established for many decades.^{61,62,63,64,65} It is now known and has been for some time, that the hydroxychloroquine studies in the Lancet and NEJM purporting to show the extensive cardiotoxicity of hydroxychloroquine in patients, were frauds and the database most likely, faked.^{66,67,68} Multiple peer-reviewed studies have shown that these alternative therapies to both prevent and treat Covid-19, are effective and safe.⁶⁹ Therefore, there is no reason to continue to use the gene therapies which have been shown to have multiple concerns for coagulopathies, immunosuppression, as well as potential reproductive concerns which have not been resolved.

For all of these reasons I believe it would be wholly unethical to move forward in immunizing the pediatric population as it would cause needless increases in deaths and injury and not protect the older populations due to the ineffectiveness

⁶¹ Hydroxychloroquine: Benefits, Side Effects, and Dosing | Lupus Foundation of America. <http://www.lupus.org/resources/drug-spotlight-on-hydroxychloroquine>

⁶² Centers for Disease Control. (CDC) Hydroxychloroquine CS237187-C https://www.cdc.gov/malaria/resources/pdf/fsp/drugs/Hydroxychloroquine.pdf?fbclid=IwAR11Vp5ucnLK9g_crh1lr_o-BHlgFiqXT7sOP30INVtTLvWCxZT5dcbB4MuM

⁶³ **Hydroxychloroquine.** Baselt's Disposition of Toxic Drugs and Chemicals in Man 9th Ed. Randal C. Baselt. Biomedical Publications. Seal Beach California.2011

⁶⁴ COVID-19 early treatment: real-time analysis of 588 studies. <https://c19early.com/>

⁶⁵ **Ivermectin.** Baselt's Disposition of Toxic Drugs and Chemicals in Man 9th Ed. Randal C. Baselt. Biomedical Publications. Seal Beach California.2011.

⁶⁶Levy *et al.* (2019) Ivermectin safety in infants and children under 15 kg treated for scabies: a multicenter observational study. *British Journal of Dermatology.* <https://doi.org/10.1111/bjd.18369>

⁶⁷ Schenieder, L. June 5, 2020. Would Lancet and NEJM retractions happen if not for COVID-19 and chloroquine? – For Better Science <https://forbetterscience.com/2020/06/05/would-lancet-and-nejm-retractions-happen-if-not-for-covid-19-and-chloroquine/>

⁶⁸ Adams, M. June 4, 2020.The Lancet, New England Journal of Medicine turned into laughing stocks as widely-touted hydroxychlorine study found to be based on fabricated data organized by science fiction writer and adult content model. <https://www.pharmaceuticalfraud.com/2020-06-04-lancet-new-england-journal-of-medicine-hydroxychlorine-study-surgisphere-total-fraud.html>

⁶⁹ COVID-19 early treatment: real-time analysis of 588 studies. <https://c19early.com/>

of the vaccines at preventing contraction or transmission of the virus. To continue to use the gene therapies while knowing the facts that we do concerning coagulopathies, cardiomyopathies and associated deaths in healthy young adults and not knowing the potential for reproductive harm due to a lack of any data, is nothing short of Criminal, in my estimation.

Due to these multiple lines of evidence of the Covid gene therapy vaccines causing coagulopathies, cardiomyopathies and causing reproductive harm, I feel that it is imperative to halt the gene therapy vaccines until these endpoints can be adequately addressed by formal studies, rather than just conjecture.

***Addendum dated July 27, 2021**

Since my original draft of this report two studies have come out that recapitulate and confirm my concerns relating to both reproductive harm and the syncytins' role in causation. Additionally the VAERS numbers of adverse events and deaths have increased dramatically and have apparently, by whistleblower testimony, been vastly under-reported in terms of death counts attributed to the Covid-19 vaccines. A recent study published in the New England Journal of Medicine (NEJM) found that in their study group of the V-Safe reporting system which is similar to VAERS, 827 women who were vaccinated while pregnant, of the 127 women who were vaccinated with the Covid-19 vaccine in their first trimester, 104 of the women (82%) reported pregnancy losses.⁷⁰ This indicates an obvious safety signal for vaccination in the first trimester as typical loss rates don't generally exceed 26% for less than 20 weeks gestation and more often average 10-12%. Rather than truthfully report on these startling numbers, the authors tried to hide the findings with skewed statistical analyses and word play. The authors lumped the pregnancy losses into a larger group of an additional 700 which were vaccinated in the 3rd trimester. They then concluded that vaccine was safe to give in the THIRD trimester without remarking that the results clearly showed that the vaccines were incredibly lethal to the developing fetus on a ratio of 82% when the vaccines were given in the first trimester. This withholding and skewing of the data to favor only a pro-vaccine bottom line is also criminal, in my estimation.

Additionally, a very recent report finally came out which set about to monitor whether anti-syncytin antibodies were in fact produced in women post-vaccination. They found in a small study of 13 women in Singapore, that every subject studied did develop anti-syncytin antibodies post Covid-19 vax, while those that were not vaxxed did not have these antibodies.⁷¹ Unfortunately in the study, as with the NEJM study, the authors tried

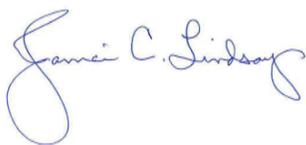
⁷⁰ Shimabukuro, et al. 2021 Preliminary Findings of mRNA Covid-19 Vaccine Safety in Pregnant Persons. NEJM 384:24.

⁷¹ Mattar et al. 2021. Addressing anti-syncytin antibody levels fertility and breastfeeding concerns following BNT162B2 Covid-19 mRNA vaccination.

to mask this effect by saying that an arbitrary positive control value which they picked, which was hundreds of times higher than would have been appropriate for the study, purportedly showed that the antibody levels were not significant. This is not true and it is as of yet unknown. Having done thousands of ELISA assays myself in the laboratory I can attest that the results were intentionally masked by both the way that the results were graphed and the arbitrary positive control value which was completely inappropriate for the assay. These studies have confirmed my initial research as well as Dr. Yeadon, Dr. Woodarg and Dr. Bruno's research. With respect to the other endpoints, as of July 17, there are 10,991 deaths reported in VAERS related to the Covid Vaccines. There are 3,906 heart attacks, 2,466 cases of myocarditis and pericarditis, and 2,552 cases of thrombocytopenia/low blood platelet. We have also seen 1073 cases of miscarriage reported in VAERS related to the Covid Vaccine, as of July 17, 2021. Data through July 27, 2021 was not provided as the www.openvaers.com servers have been down and this is the most user-friendly system to utilize in tracking VAERS data. Instead I have provided data from the last download I had on July 17, 2021. Please remember that these numbers are merely a fraction of the true number of reported deaths and may represent only 1%-10% of the total deaths and adverse events.

I hope that this has been helpful in your understanding of the issues at hand and also in recognizing the failures or pharmaceutical "capture" of our typical safety oversight mechanisms, which would have previously halted this campaign long ago. It is my sincere belief that *this* genocide can be stopped if people stand up and do the right thing. This did not happen some 80 years ago, I pray with God's hand and our help, it will be stopped this time before any more lives are lost.

Sincerely,

A handwritten signature in blue ink that reads "Janci C. Lindsay". The signature is written in a cursive style with a large, looped initial "J".

Janci Chunn Lindsay, Ph.D.,
Director of Toxicology and Molecular Biology
Toxicology Support Services, LLC.

Attachment A
Cirriculum Vitae
Janci Chunn Lindsay, PhD



TOXICOLOGY SUPPORT SERVICES, LLC

JANCI C. LINDSAY, PhD., TOXICOLOGIST DIRECTOR OF TOXICOLOGY & MOLECULAR BIOLOGY

Dr. Lindsay is the Director of Toxicology and Molecular Biology for Toxicology Support Services, LLC. She is a consulting toxicologist and full member of the Society of Toxicology. Dr. Lindsay has more than 30 years of scientific experience and holds a doctorate in Biochemistry and Molecular Biology from the University of Texas Graduate School of Biomedical Sciences, M.D. Anderson Cancer Center, in Houston. She has extensive experience in analyzing the complex dynamics of toxicity, such as chemical pharmacology, exposure route, host metabolism, the dose/response relationship, genetic susceptibility and subsequent cellular effects as they relate to the contribution of specific substances to injury, impairment, human disease and cancer. Dr. Lindsay has consulted as an expert witness since 2006 and has testified in both civil and criminal cases in state and federal jurisdictions.

Dr. Lindsay specializes in the area of pulmonary toxicology and holds several publications in this field. She regularly investigates toxic tort cases involving pulmonary pathologies such as asthma, reactive airway disease, severe asthma fungal sensitivity syndrome (SAFS), allergic bronchopulmonary aspergillosis, chronic obstructive pulmonary disease (COPD), bronchiolitis obliterans, “popcorn lung”, asbestosis, mesothelioma and pulmonary fibrosis—that may be claimed following chemical, drug, fungal, microbial or particulate exposure. Dr. Lindsay has experience in analyzing and evaluating gene and protein-based molecular markers of exposure and disease in the modern field of “Toxicogenomics”, with respect to solvents such as benzene, PCBs and pesticides. Dr. Lindsay regularly investigates the biologic plausibility of exposure to certain chemicals and the disease endpoints being claimed particularly with respect to molecules which may act as selective endocrine disrupters/modulators and chemicals which may be oncogenic.

Dr. Lindsay additionally specializes in forensic toxicology investigations involving drugs and/or alcohol and their potential to impair mental, physical and physiologic endpoints in dram shop, personal injury and criminal cases. Dr. Lindsay regularly performs retrograde and anterograde extrapolations to approximate drug or alcohol levels at the time of an incident using accepted scientific formulas and technique. Dr. Lindsay also has experience in overdose cases, missed pill, and wrong pill cases, where she has assessed the potential for drug/drug interactions and additive, subtractive or synergistic actions of combined substances and how this may impact toxicity and impairment. Dr. Lindsay also has experience with microbial pathogen toxicology as it pertains to infectious disease with species such as MRSA, Legionella, Clostridium, Listeria, Streptococcus and Giardia.

Dr. Lindsay also performs health risk evaluations for a variety of consumer and industrial products, chemicals and pollutants and has extensively evaluated conventional cigarette and electronic cigarettes as they pertain to human health. Dr. Lindsay provides regulatory support with respect to hazards and warnings and labeling in consumer product and industrial product cases. Additionally, Dr. Lindsay has expertise in food and pharmaceutical adulteration and integrity claims that may involve excessive temperature excursions, microbial contamination, bodily fluid or animal waste contamination.

JANCI CHUNN LINDSAY, PH.D.

ACADEMIC CREDENTIALS AND PROFESSIONAL HONORS

- 1993 B.S., Biological and Physical Sciences, University of Houston-Downtown
- 2006 Ph.D., Biochemistry and Molecular Biology, Graduate School of Biomedical Sciences, University of Texas, Houston, TX.
- 2005 T.C. Hsu Scholarship in Genetics & Cell Biology, UT MD Anderson Cancer Center, Houston, Texas
- 2005 Dean's Research Award, GSEC, UT Medical School-Houston, Texas
- 1993 Excellence in the Pre-Health Sciences Award, University of Houston-Downtown

SCIENTIFIC PRESENTATIONS

Pulmonary and General Toxicology

Toxicology Claims in the Food and Hospitality Industries. The Hospitality Claims Webinar Cole, Scott & Kissane and Rimkus Consulting Group, Tampa, Florida July 30, 2014.

The Ingestibles: A Study in Foodborne Illness and Pharmaceutical Claims. CIE Tampa, Florida July 30, 2014

The Pulmonary Toxicity of Carbon Nanotubes and Exposure Considerations. Harris Martin Seminars December 3, 2012, The Ritz-Carlton, Marina del Rey, CA

Scientific Reliability and Applicability of Toxicogenomics Studies in Toxic Tort Litigation. 19th Annual FETTI Convention. The National Forum for Environmental and Toxic Tort Issues. September 28, 2012

The Toxicology of Benzene and Toxicogenomics for the Non-toxicologist. The Maritime Fall Seminar Continuing Legal Education. October 14, 2011

Benzene Litigation and Lymphoid Cancers: New Scientific Evidence, Harris Martin Seminars December 9-10, 2010, Ritz-Carlton, Marina del Rey, CA

Toxicology and Genomics in Environmental and Health Risk Assessment, is the Science There Yet? BP America October 5, 2009

Panelist "Household Chemicals the Next Wave" American Bar Association Litigation Section's Chemical Products and Toxic Torts at a Cross Road. September 11, 2009

Forensic Toxicology

Workman's Compensation and Marijuana Panel. RIMS Central Ohio Chapter. Wendy's National Headquarters, Dublin, Ohio. November 4, 2015

Dram Shop Liability Claims and the Visible Intoxication Standard. CPCU Conference. Houston, Texas. November 3, 2015

Dram Shop Liability Claims and the Visible Intoxication Standard. NRRDA. Austin, Texas February 13, 2015

Forensic Toxicology for Drug and Alcohol Cases and Issues of Impairment. Rimkus Consulting Group National Headquarters. Houston, Texas. August 15, 2013

PROFESSIONAL AFFILIATIONS

2006—present: American Chemical Society; Member
2006—present: Society of Toxicology; Full Member

EDITORIAL POSITIONS

Editor: Toxicology U.S. Journal
Editor: MOJT MedCrave Online Journal of Toxicology

DETAILED PROFESSIONAL EXPERIENCE:

Janci Chunn Lindsay, Ph.D., Toxicology Support Services, LLC. 2010-present

Director of Toxicology

Provide toxicological support in cases involving exposure to a variety of substances. Specialize in inhalation toxicology and also forensic toxicology involving drug and alcohol-related incidents. Provide expert reports and testimony to support conclusions and opinions. Investigate toxicogenomics research on highly-regulated substances and provide molecular mechanisms of pathogenesis in disease and oncogenesis. Perform work in food adulteration cases and biological fluid contamination and exposure cases. Provide regulatory support in pharmaceutical integrity cases and guidance on good manufacturing practice. Provide hazard and warnings expertise in labeling and MSDS compliance with U.S. regulations.

Toxicology and Mechanistic Biology Exponent, 2006- 2010
Scientific and Engineering Consulting Inc.

Senior Scientist Consultant

Provided toxicological support in cases involving exposure to chemicals, particulates, microbials, pharmaceuticals and alcohol, provided expert reports and testimony. Performed health risk assessments for a variety of consumer and industrial products, chemicals and pollutants. Drafted technical documents and white papers for human health impact statements relating to permitting requirements for power plants. Investigated regulatory guidelines and standards pertaining to importing petroleum-related biocides in eight Latin American countries. Investigated mechanism/s of action and new molecular research of highly regulated chemicals and provided expert reports explaining findings. Evaluated scientific literature on chemicals for REACH submissions and MSDS/SDS compilations. Performed weight of the evidence research on highly regulated chemicals. Researched mechanisms of action of carcinogenesis from varying chemicals and particulates. Performed work in the field of Toxicogenomics as it relates to petroleum products, pesticides, and combustion by-products. Performed toxicological evaluations on electronic cigarette e-juice, nicotine replacement devices and traditional cigarettes.

M.D. Anderson Cancer Center - Office of Technology Commercialization 2006

Graduate Student Research Assistant - Intern in Licensing

Reviewed invention disclosures from MD Anderson researchers pertaining to emerging chemotherapeutics for the treatment of cancer, and immune system modulation. Evaluated the accuracy of the science, adequacy of the experimental procedures, novelty of the claims and marketability.

**University of Texas GSBS
Department of Biochemistry and Molecular Biology**

2000-2006

Graduate Student Research Assistant

Graduate research studies focused on studying molecular mechanisms involved in various mouse models of pulmonary disease including asthma, COPD, pulmonary fibrosis and emphysema. Conducted various immune system assays and examined cells, cytokines and chemokines as well as performed microarrays and quantitative real-time PCR, immunohistochemistry and cytochemistry. Key research centered on reversing features of pulmonary fibrosis in a mouse model through lowering adenosine levels. Investigated the role of osteopontin in pulmonary fibrosis. Examined specific adenosine receptor contribution to pulmonary fibrosis through the use of receptor knock out mice and chemical antagonists to the 4 receptors. Performed experiments on various primary lung fibroblast cell lines and immortalized lung epithelial cell lines. Also investigated and co-published research on adenosine receptor dynamics in cardiac ischemia. Presented research at national and international meetings and published in peer reviewed journals.

**The University of Texas Medical School, UTHSC
Department of Biochemistry and Molecular Biology**

1998-2000

Research Assistant II,

Investigated three separate mouse models of pulmonary disease. Research focused on mechanisms of asthma and evaluation of lung function in mice. Also investigated adenosine receptor expression during embryonic development in mice. Performed research on a mouse model of liver fibrosis induced by elevations in adenosine. Examined the role of adenosine in bleomycin induced pulmonary fibrosis. Researched the immune status of mice with artificial elevations in adenosine. Investigated the role of adenosine in penile erection and priapism in mice.

**Baylor College of Medicine, The Children's Nutrition Research Center,
Research Assistant I**

1998

Worked on a NASA co-study investigating experimental models of nutrition for mouse pups in space.

Baylor College of Medicine, Department of Neonatology

1997-1998

Research Technician III

Examined the toxicity of various substances in Chinese Hamster Ovary Cells and lung fibroblast cell lines. Performed research on E. Coli O157:H7 in order to determine mechanism for immune system evasion and up-regulation of growth due to iron source. Ran 2-D SDS PAGE to identify proteins binding to bacteria from blood plasma.

Baylor College of Medicine, Cell Biology Department. Houston Medical Center

1993-1996

Research Technician II, Head of 2-D SDS PAGE Core Laboratory

Ran 2-D SDS PAGE core laboratory for Baylor's Cell Biology Department. Performed research towards the development of a human contraceptive vaccine targeted to the zona pellucida egg protein. Performed sperm binding studies. Developed mimitope mapping technology to isolate highly antigenic peptides for vaccine development. Made primary antibodies in rabbits and guinea pigs and monoclonal antibodies in mice. Investigated the toxicity of clomiphene citrate to primary rabbit granulosa cells. Identified a novel carbohydrate moiety that was upregulated in human ovarian cancer cases. Wrote several chapters on molecular biology techniques for a CD-ROM publication.

PUBLICATIONS

Schneider DJ, Lindsay JC, Zhou Y, Molina JG, Blackburn MR. Adenosine and osteopontin contribute to the development of chronic obstructive pulmonary disease. *FASEB J*. 2009 Aug 31

Tiejuan Mi, Shahrzad Abbasi, Hong Zhang, Karen Uray, Janci L. Chunn, Ling Wei Xia, Jose G. Molina, Norman W. Weisbrodt, Rodney E. Kellems, Michael R. Blackburn, and Yang Xia. Excess Adenosine in murine penile erectile tissue contributes to priapism via A_{2B} adenosine receptor signaling. *Journal of Clinical Investigation* 2008; 118 (4) 1491-1501

Chunn JL, Mohsenin A, Young HY, Lee CG, Elias JA, Kellems RE, Blackburn MR. Partially adenosine deaminase deficient mice develop pulmonary fibrosis in association with adenosine elevations. *Am J Physiol Lung Cell Mol Physiol*. 2006; 290:579–587

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