

A Christocentric Theology of Vaccination: A Pastoral Resource for Navigating Science and Faith

Authors

Gordon Sinclair ⁽¹⁾; Yolanda Sinclair ⁽²⁾

Main author's email: gordon@gysinclair.co.uk

(1.2) Christian International Europe, United Kingdom.

Cite this article in APA

Sinclair, G., & Sinclair, Y. (2025). A Christocentric theology of vaccination: A pastoral resource for navigating science and faith. *Journal of pastoral and practical theology*, 4(1), 108-119. <https://doi.org/10.51317/jppt.v4i1.854>



A publication of Editon Consortium Publishing (online)

Article history

Received: 2025-09-05

Accepted: 2025-10-07

Published: 2025-11-04

Scan this QR to read the paper online



Copyright: ©2025 by the author(s). This article is an Open Access article distributed under the terms and conditions of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License (CC BY-NC-SA 4.0).



Abstract

This study aims to provide a Christocentric theological and pastoral framework for understanding vaccination, offering a theological and epistemological tool (Theological Epistemology) that distinguishes observation and reason (OR) from beliefs inconsistent with biblical doctrine, thereby enabling trust in the veracity of scientific OR. This study is motivated by two pressing concerns within the Christian community: a growing mistrust of scientific observation and reason (OR), particularly regarding vaccination, and a theological gap in understanding how vaccination aligns with Christ's redemptive mission. The study critiques existing theological literature on vaccination, identifying gaps in either scientific or theological rigour. In response, this study proposes a balanced integration of theological and scientific reasoning (Theological Reflection), presenting vaccination as participation in Christ's redemptive mission to "destroy the works of the enemy" (1 John 3:8). Public health successes, such as smallpox eradication, are framed as missional acts, supported by scientific observation and reason (OR) that reinforce the theological argument. The paper responds to common objections (Systematic Theology), including concerns about aborted foetal cell lines, bodily sanctity, divine healing, and moral implications of certain vaccines, through biblical reasoning and pastoral sensitivity. Thus, the method is a three-step process: Theological Epistemology, Theological Reflection and Systematic Theology. This Christocentric framework enables church leaders to guide congregations toward informed, compassionate vaccination choices, aligning with their missional and pastoral responsibilities. This significance lies in its potential to foster faith-informed public health engagement and promote life-affirming theological reflection.

Key terms: Christocentric theology, epistemology, pastoral care, public health, vaccination.

1.0 INTRODUCTION

This study responds to a multifaceted challenge within the Christian community: a growing mistrust of scientific observation and reason (OR), often due to scientists' trust in evolutionary theory; a resulting scepticism toward institutions that promote evolutionary theory; and a theological disconnect that obscures the redemptive significance of vaccination. These factors contribute to vaccine hesitancy, leading to preventable illness and death (Olivera Mesa et al., 2022). In this context, pastoral leaders face an urgent call to shepherd their congregations wisely (1 Peter 5:1-4), promoting theological clarity, scientific discernment, and compassionate care in alignment with Christ's mission.

To address this pastoral and epistemological challenge effectively, it is crucial to clarify the key scientific and theological terms that underpin the discussion. Observation and reason (OR), as used in this paper, include empirical observation, rigorous logical reasoning, and statistical validation. 10^2 is a mathematical way of indicating a number where there are two zeros after the first digit, i.e. a way of writing a hundred. This may seem overly cumbersome for a hundred, but it comes into its own for numbers including multiple zeros before the decimal place. For example, 10^3 indicates one thousand and 10^6 indicates one million. An intervention is any medical procedure carried out on a patient. A side-effect is a secondary effect of an intervention, usually detrimental, though it may be neutral or beneficial. An adverse effect is an issue that occurs about the same time as the intervention, but with no known causal link. Norming Norm refers to scripture as the highest standard against which all other knowledge is measured. Normed Norm is the secondary standard of Church doctrine, which has been measured against scripture, such as the Creeds.

A mutation is a scrambling of genetic material (DNA) caused by a random process (for example, radiation) and is overwhelmingly detrimental. Generational genetic degradation is the deterioration of the DNA from one generation to the next; for example, in humans, each generation inherits approximately 60 to 100 new mutations, as explained by Michaelson et al. (2012). Adaptation (microevolution) results from environmental pressure or a deliberate breeding strategy, in which the progeny look different from the wild population. The changes are reversible (excluding generational genetic degradation). When environmental pressure is removed or the breeding strategy is changed, the progeny can look like the wild population again; for example, dogs can return to being wolves. Speciation is scientific labelling based on appearance; thus, dogs are considered a separate species from wolves. Labelling is not evidence but is often confused with evolution. The theory of evolution (macroevolution) is the idea that through progressive random changes (including genetic), air became amino acids; amino acids were likely to have been important in forming the first living cell (method unknown), and then, through countless mutations, this first living cell gave rise to all living beings.

To provide context for the perspective informing this paper, a brief introduction is appropriate. The lead author brings an interdisciplinary background as a Chartered Scientist with over thirty years of experience in clinical and academic healthcare, as well as pastoral ministry as an ordained minister within Christian International Europe. Both authors serve as pastors and ordained ministers within this network, writing from a Protestant, Evangelical, and Charismatic tradition that affirms the authority of scripture, the centrality of Christ, and the active presence of the Holy Spirit in the Church today. This dual engagement, scientific and pastoral, shapes the theological and practical dimensions of our approach to vaccination.

With this theological foundation in view, the study now turn to the broader cultural and epistemological landscape in which vaccine hesitancy unfolds. The modern world is characterised by deep polarisation, and this divide often spills into discussions about health and science. Christians are called to be bearers of light and truth (ethical, moral, and intellectual). The truth sets people free (John 8:32). In the realm of public health, truth includes recognising the historical and ongoing impact of preventable diseases such as polio, smallpox, and measles. Their terrible effects have largely faded from the church's collective memory due to the success of vaccination programmes. Yet the consequences of vaccine refusal remain severe. For example, in unvaccinated populations, the incidence rate of congenital rubella syndrome (CRS), the result of unvaccinated maternal rubella infection (particularly in the first trimester), is approximately 2.5 per cent (Wondimeneh et al., 2018). The clinical manifestations of CRS include stillbirth, miscarriage, congenital heart defects, cataracts, hearing loss and severe and lasting health challenges (Giusti et al., 2013). These devastating outcomes are not the freedom into which Christ has called His church.

The Christian community is, however, immediately faced with the issue of trust and truth. Science is founded on observation and reason, but the interpretations of the data are based on prior belief systems. If science is to be trusted (Tippins et al., 2023), there must be a mechanism for differentiating observation and reason from unchristian beliefs. This article seeks to respond by employing a theological epistemological tool to help untangle truth from fiction. Through a Christocentric theological lens, it aims to equip pastoral leaders to respond faithfully and wisely to vaccine hesitancy within the Christian community by providing a Christocentric framework that integrates theological reasoning with scientific observation. It seeks to restore trust in valid scientific results (OR), clarify the redemptive significance of vaccination, and support pastors in guiding their congregations with compassion, truth, and theological integrity.

2.0 LITERATURE REVIEW

Jones (2022), Branch (2021), Friel (2021), Flessa (2021), Congregation for the Doctrine of the Faith (2020), Pontifical Academy for Life (2005) and Dielschneider (2021) offer differing theological and scientific approaches to vaccination. Jones (2022) presents a moral theology that incorporates vaccination and provides a rigorous scientific evaluation, situating contemporary concerns within a historical context. However, his theological justification is limited, relying solely on reason without engaging biblical or ecclesial dogma. He suggests that the rapid development of COVID-19 vaccines reflects divine providence and raises questions about their impact on the Lordship of Christ, yet these claims lack theological substantiation. Branch (2021) also develops a moral theology, distinguished by a robust biblical foundation. His argument centres on the principle of loving one's neighbour, offering theological clarity but omitting scientific analysis. Friel (2021) presents a hybrid moral and systematic theology. His work is accessible, biblically sound, and ethically coherent, yet it lacks scientific depth.

Flessa (2021), in agreement with Branch (2021), develops a moral theology based on loving one's neighbour. However, unlike Branch (2021), he only substantiates it with a robust statistical analysis. Congregation for the Doctrine of the Faith (2020) is a moral theological statement using moral reasoning to argue that even vaccines developed using cell lines established from the tissue of an aborted foetus are acceptable where no other alternative is available. This position reflects longstanding Vatican teaching, though it is not explicitly supported by biblical exegesis or scientific analysis. This form of moral argument is also applied to the Pontifical Academy for Life (2005). Finally, Dielschneider (2021) presents a moral

theology of vaccination, primarily substantiated with scientific evidence, except in the last paragraph, where she offers two biblically based arguments for seeking the truth (Romans 12:15) and showing empathy (Colossians 3:12).

These sources underscore the ongoing division within the theological discourse concerning vaccination (and health sciences generally). Some emphasise theological morality yet overlook scientific observation and reason, while others prioritise scientific reasoning with limited theological insight. This division is, in part, understandable within the framework of the prevailing worldview of modern rationalism. Such a split poses challenges for pastors and Christian Leaders, as it compels them to choose between OR and theological reasoning, thereby reducing the persuasiveness of their arguments and hindering their capacity to assist congregations in navigating intricate health-related decisions. This study seeks to address this issue by synthesising theological principles with a scientific understanding within a Christ-centred pastoral approach, aiming to provide guidance that is informed, compassionate, and anchored in scripture.

3.0 METHODOLOGY

This study follows a three-step theological method. First, it addresses mistrust toward scientific observation and reason (OR) within parts of the Christian community. Recognising that vaccination cannot be meaningfully defended using OR unless its trustworthiness is established, the study applies a theological epistemological tool, structured around Scripture, Dogma, Reason, and Experience, to evaluate OR's legitimacy from biblical, doctrinal, rational, and experiential standpoints. This includes an epistemological critique of evolution to clarify the reliability of scientific conclusions.

Second, once OR is affirmed, the study engages in theological reflection to discern the redemptive significance of vaccination. Biblical texts and doctrinal themes are examined to understand how Christ may be at work through public health interventions, particularly in the eradication of disease. Third, common theological objections to vaccination are analysed using systematic theology, drawing on scripture, tradition, and pastoral concerns to offer biblically grounded and scientifically informed responses.

Sources include peer-reviewed scientific literature, Holy Scripture, theological works from Protestant, Evangelical, and Charismatic traditions, writings of the Church Fathers, and official Catholic statements. These were selected for theological and pastoral relevance, doctrinal significance, and scientific credibility. Scripture is treated as the norming norm, while theological sources, including creeds and ecclesial writings, are normed norms. All sources are interpreted through a Christocentric lens.

Scientific reasoning, such as vaccine efficacy and disease eradication, is evaluated through this framework. For example, smallpox eradication is interpreted as a missional act aligned with Christ's work to "destroy the works of the enemy" (1 John 3:8).

4.0 RESULTS AND DISCUSSION

Theological Epistemological Tool

Table 1: Schemes for Theological Epistemology

Element	Role	Layer
Scripture	Norming Norm	1
Dogma	Normed Norm	2
Reason	Interpretative Tool	3
Experience	Personal Encounter	4

Source: Morgan and Peterson (2020).

In brief, the epistemological tool (Table 1) prioritises scripture as the supreme source of truth, God's special revelation to a fallen and broken humanity (2 Timothy 3:16–17; Psalm 119:160; John 17:17; Proverbs 30:5). Next is Dogma, the established teaching of the Church, which is valid only insofar as it has been corrected and normed by scripture (2 Thessalonians 2:15). The third layer is reason, a valuable interpretative tool that must remain submitted to the Lord (Proverbs 3:5–6). Finally, experience, when brought under the authority of the previous three layers, becomes a meaningful witness to truth (1 John 1:1–3).

The authors propose this hierarchical theological epistemology as a pastoral tool to evaluate truth claims (Table 1). The Church's rejection of evolution may have inadvertently led to a rejection of all empirical evidence (Roos, 2017). The authors respond to this challenge by first showing that evolution is unsubstantiated from a Christocentric and genre-sensitive hermeneutical stance, then demonstrating, using the same tool, that OR is a valid means of determining truth.

Layer 1: From a Christocentric and genre-sensitive hermeneutical stance, evolutionary theory appears incompatible with the biblical account of creation. The biblical witness presents a coherent narrative of divine intentionality and immediate creation that stands in contrast to evolutionary theory's gradualism and random mechanism. In Genesis 1–2, God creates distinct kinds of life, culminating in the formation of man from dust and woman from man's side (Genesis 2:7, 21–22), within a six-day framework, affirmed in Exodus 20:11. Jesus himself reinforces this chronology, declaring, "From the beginning of creation, God made them male and female" (Mark 10:6), suggesting human distinctiveness from the outset. The apostolic writings deepen this theological anthropology. Romans 5:12–19 and 1 Corinthians 15:21–22, 45–49 present Adam as a historical figure whose fall introduces death, and Christ as the last Adam who brings life, an interpretive structure that presupposes a non-evolutionary origin of humanity. Psalm 139:13–16 affirms God's intimate involvement in human formation, while Isaiah 45:12 declares, "I made the earth and created man on it," reinforcing divine agency. Similarly, Job 38–41 portrays creation not as a random process but as a display of divine wisdom and sovereignty. These passages collectively challenge the epistemological assumptions of evolutionary theory, particularly its reliance on randomness, common descent, and death as creative forces, and instead affirm a theological vision of creation rooted in purpose, order, and divine speech.

Beyond the textual and theological tensions with evolutionary theory, a deeper doctrinal concern emerges: if death, disease, and decay are not the consequence of human sin but rather intrinsic to the created order from the beginning, then the theological coherence of Christ's redemptive work is fundamentally

undermined. Scripture consistently presents death as the wages of sin (Romans 6:23) and the final enemy to be destroyed (1 Corinthians 15:26), not as a natural or necessary process. If evolutionary death predates Adam, then the fall becomes a symbolic or redundant event, and Christ's atoning sacrifice, intended to reverse the curse of sin and its consequences, loses its salvific specificity. The cross, in this view, addresses a moral abstraction rather than a historical rupture. Such a framework risks severing the biblical link between creation, fall, and redemption, and diminishes the eschatological hope of a restored creation where death shall be no more (Revelation 21:4). Thus, the theological cost of accommodating evolutionary death is not merely exegetical; it is soteriological.

Layer 2: The early church strongly rejected the concept of an undirected process responsible for the universe's origin, dismissing the idea that random collisions could produce the current existence as absurd (Allidon, 2017).

Layer 3: The authors present a logical argument in favour of creation. In any random process, the odds of success of a single trial are 1 in p (where p represents any value). It typically takes more than p independent trials to achieve success cumulatively. The authors conservatively estimate the odds of randomly creating one small protein HBB gene (of the 100,000 required) and its pseudogenes to be 1 in 10^{629} . This would require more than 10^{629} trials to successfully produce the HBB gene by a random process (evolution) and its associated regulatory DNA. This probability calculation is based on well-established principles of discrete probability theory. Specifically, it applies the rule that the probability of a sequence of independent occurrences is the result of the individual event probabilities, a foundational concept in probability (Campos, 2015). The vast numbers of failed trials would generate useless DNA (junk DNA). Thus, junk DNA was historically an essential prediction in Evolution Theory. When the pseudogenes and regulatory RNA regions of DNA were discovered, they were falsely labelled as "junk DNA" (Walter, 2024). This discovery was hailed as definitive proof of the theory of evolution. However, we now know there is no such thing as junk DNA. As much as 98.5 per cent of the human genome is required for health (Mattick, 2003; Mattick et al., 2009; Navandar et al., 2024). As there is no Junk DNA, there were no failed trials; thus, chance was not the process that created our genes and regulatory architecture. There is only one logical explanation remaining: there was a designer and builder. God created us.

Layer 4: Adaptation has been seen in action (for example, wolves became dogs), but adaptation is not in contention. It is evolution which is in contention. Evolution is the hypothetical random mechanism by which air became man. This mechanism has not been observed.

Thus, the authors have shown that the theory of evolution fails each of the four hierarchical theological epistemological tests of truth. Evolutionary theory, and its claims, are not substantiated by the theological epistemological tool. The authors now proceed to examine the remainder of the argument. "Evolution is false; thus, all of science is false?" The scientific method is founded on observation and reason. Is observation and reason a valid tool for discovering truth? The authors have employed the same theological epistemological tool to investigate this important question.

Layer 1: Is observing God's creation a valid way of discovering truth according to scripture? God's general revelation declares the glory of God (Psalm 19:1), and His attributes of power and wisdom are clearly seen in Creation (Romans 1:20). Job invites us to ask (observe) the animals and earth so that they teach us about

God (Job 12:7-10). Thus, scripture encourages investigation through the observation of creation, so that we may learn truth.

Similarly, reasoning is highly valued throughout scripture. The whole of creation was created by the reason (the Logos) (John 1:1-3). Reason is employed throughout biblical discourse, from Paul's structured theological arguments (Romans 3-8) to Jesus' use of syllogistic reasoning in parables and debates (Matthew 22:15-46). The entire book of Galatians serves as the foundation of the science of apologetics (1 Peter 3:15), which is grounded in rationality. It is clear from this brief discussion that scripture affirms the validity of rationality.

Statistical reasoning, although not explicitly named, resonates with biblical practices such as census-taking (Numbers 1:2), demographic analysis (Acts 2:41; 4:4), and pattern recognition in wisdom literature (Ecclesiastes 3:1-8). Thus, statistical reasoning appears to be valid in scripture.

Layer 2: Is observing God's creation considered a valid method of determining truth by the church fathers? Church fathers like Basil and Gregory affirmed that while God's essence is unknowable, humans can attain knowledge of Him through divine energies and creation, noting that God's "eternal power and deity" has been visible through knowledge of creation since the world's beginning (Dimitrova, 2016).

Similarly, the normed norm of church teaching is cautious of reason, maintaining the supremacy of faith but affirming its value (Benedict XVI, 2013). Correspondingly, statistical reasoning is comparable with current church teaching (Warren, 2021).

Layer 3: Observation, reason, and statistical reasoning are themselves reasonable.

Layer 4: Observation, reason, and statistical reasoning are, in the authors' experience, reasonable and valuable tools for discovering truth.

Thus, using the study's theological epistemological tool, we can see that, although Evolutionary theory and its claims are not substantiated, the scientific method's foundation is a valid means of discovering truth. This means we can trust the results (scientific data) (Ghazanfari et al., 2016) of a scientific investigation, even though we may not trust the science authors' interpretation.

This section has sought to lay a theological epistemological foundation for accepting scientific data as distinct from scientific interpretation of data. This is important so that, in the next section, readers can rely on both theological and scientific evidence regarding vaccination.

This theological epistemology posits that truth is discovered through a layered framework: Scripture as the ultimate authority, Dogma as its faithful reflection, Reason as a servant to divine wisdom, and Experience as a submissive witness. Using this approach, we can differentiate between the validity of scientific data, derived from reason and empirical observation, and its interpretation, which can be shaped by worldview or bias. This distinction is vital as we analyse the theological and scientific aspects of vaccination, where both data and doctrine are examined through scripture and sound theological reasoning.

Theological Reflection

In this section, the authors will present a clear doctrinal argument that depicts vaccination as part of Christ's redemptive mission to "destroy the works of the enemy" (1 John 3:18). Sickness is part of the works of the enemy that the Lord Jesus Christ came to destroy (John 10:10; James 5:14-15; Luke 13:11-16; Acts 10:3-8; Matthew 8:16-17; Isaiah 53:4-5). Vaccination has eradicated (destroyed) smallpox (Guidolin & Meglei, 2014; Nishiyama et al., 2015) from the earth, other than some samples in national research reference laboratories. While vaccinated people may have less or less severe symptoms, until the disease is eradicated, this part of the Lord's missionary work is incomplete. Thus, vaccination is not only a significant medical advance but also a missionary act in which the participant enters into the Lord Jesus's work to destroy sickness. However, for vaccination to be genuinely effective in eradicating a disease, it must target the reservoirs of the causative agents, which, in the case of Tetanus, is not feasible (Table 2). For Influenza, Cholera, Yellow Fever, and Japanese Encephalitis, it is not practical (Table 2).

Table 2: Disease, Causative Agent and Reservoir

Disease	Causative Agent	Reservoir Species
Smallpox	Variola virus	Humans only
Polio	Poliovirus	Humans only
Measles	Measles virus	Humans only
Rubella	Rubella virus	Humans only
Hepatitis B	Hepatitis B virus	Humans only
Rabies	Rabies virus	Wild and domestic mammals (e.g., dogs, bats)
Tetanus	Clostridium tetani (bacterium)	Environmental spores (soil, dust)
Cholera	Vibrio cholerae (bacterium)	Humans and aquatic reservoirs
Cervical Cancer	Human papillomavirus (HPV)	Humans only
Bacterial Meningitis	Streptococcus pneumoniae, Neisseria meningitidis	Humans only
Influenza	Influenza viruses	Humans, birds, pigs
Yellow Fever	Yellow fever virus	Humans and primates
Japanese Encephalitis	Japanese encephalitis virus	Birds and pigs
Tuberculosis	Mycobacterium tuberculosis	Humans, cattle (rare)

Source: Centers for Disease Control and Prevention (CDC, 2021).

Unfortunately, even if the entire human population were vaccinated against a specific agent, such as Poliovirus, not everyone can produce an effective immune response. This is related to age (Renia et al., 2022), pre-existing health conditions (Ward et al., 2022) and lifestyle factors (George et al., 2023). This is where linking the Branch (2021) argument of loving your neighbour becomes particularly compelling. Those with a protective immune response may be able to protect those without it, and the disease may still be eradicated. This depends on the proportion of the population who cannot respond compared to those who need to be immune to stop the disease, which ranges from 85 per cent to 95 per cent of the population (Nawaz Ali et al., 2021).

Before moving on to common objections, it is important to mention side effects. Mild side effects (for example, sore arm, fatigue, headache) for intramuscular vaccination (against COVID-19), depending on vaccine type, were found to be very common in over 80 per cent of participants (Abu-Hammad et al., 2021). However, of greater concern is the rare but severe vaccine-induced thrombocytopenia and thrombosis (VITT) associated with the adenovirus vector. VITT occurs in about 1 in 100,000 vaccine doses using an adenovirus vector (Pai, 2022). Other rare side effects can be the reactivation of a live attenuated virus (LAV) vaccine. LAV is considered where the inactivated virus is ineffective; unfortunately, in immunocompromised individuals, it can revert to virulence, although this is rare (Fan et al., 2024).

Systematic Theology

Finally, the authors will respond to objections through biblical and doctrinal reasoning, supplemented by scientific data, to offer a balanced theological appraisal.

Firstly, the use of aborted foetal cell lines in the manufacturing process. The use of aborted foetal tissues (from many years ago) in creating cell lines means that a sinful act (abortion) was instrumental in creating the cell lines, which are still in use today. Branch (2021) quoting from Pontifical Academy for Life (2005) argues that although great evil was done to the child, the subsequent act of tissue donation has been beneficial, an example of God bringing good out of the very worst of situations (Genesis 50:20 and Romans 8:28). Thus, when there is no alternative vaccine available, one made from cell lines that were created using aborted foetal tissue are morally acceptable to be used, so that good may come from evil, which is God's will.

Secondly, the body is the temple of the Holy Spirit (1 Corinthians 6:19-20), and vaccination may be viewed as a harmful or unnecessary medical intervention. However, refusing vaccination, which trains the immune system to deal with the threat of disease appropriately, is reckless and a poor stewardship of the body, which is not ours but the Lord's, and shows a disregard for the health of the body as a whole.

Thirdly, healing is through prayer alone. Although God is our healer, He can and does use humans and medicines (Leviticus 13:2-45; 1 Kings 14:1-3; 17:17-24; 2 Kings 4:18-37; 5:1-3; 20:1-11).

Fourthly, vaccines like HPV or Hepatitis B are sometimes associated with sexual activity or drug use. Thus, administering these vaccines to children may be seen as anticipating or condoning sinful behaviour, contrary to biblical ethics (Romans 13:14). This, unfortunately, demonstrates a lack of understanding of the possible routes of transmission, which include sharing household items, kissing, and other innocent activities.

5.0 CONCLUSION AND RECOMMENDATIONS

Conclusion: This paper has demonstrated that vaccination can be understood as a vital expression of God's providential care for humanity.

Recommendations: Finally, the study offers the following as recommendations for pastors and church leaders: Building on the theological epistemology outlined above, pastors and church leaders are encouraged to adopt this layered framework as a tool for discerning truth and guiding their congregations. Scripture, as the norming norm, must remain central, with dogma, reason, and experience each playing a subordinate yet meaningful role. This approach helps distinguish between reliable scientific

data and potentially biased interpretations, equipping the Church to respond wisely to contemporary issues. In an age of increasing misinformation, truth remains the Church's weapon (Ephesians 6:17), and leaders must teach their congregants to seek truth faithfully and critically.

Applying this framework to vaccination, congregants should generally be vaccinated as a Christocentric, missional act, an expression of love and care for their neighbour and community. However, pastoral sensitivity is required. Individuals who are immunocompromised should typically avoid live attenuated vaccines (LAVs), unless the risk of disease outweighs the risk of reactivation in their specific context. Vaccines using adenovirus vectors should be avoided when alternatives are available. Likewise, vaccines developed using aborted foetal cell lines should be avoided if ethically viable alternatives exist. These guidelines are intended to support pastoral teams in their theological reflection and should not be adopted as a substitute for professional medical advice.

6.0 REFERENCES

1. Abu-Hammad, O., Alduraidi, H., Abu-Hammad, S., Alnazzawi, A., Babkair, H., Abu-Hammad, A., Nourwali, I., Qasem, F., & Dar-Odeh, N. (2021). Side effects reported by Jordanian healthcare workers who received COVID-19 vaccines. *Vaccines*, 9(6). <https://doi.org/10.3390/vaccines9060577>
2. Allidon, G. R. (2017). *Theistic evolution: A scientific, philosophical, and theological critique* (J. P. Moreland, S. Meyer, C. Shaw, & W. Grudem, Eds.). Crossway.
3. Benedict XVI. (2013). *General audiences of Benedict XVI (English)*. Libreria Editrice Vaticana.
4. Branch, J. A. (2021). *50 ethical questions: Biblical wisdom for confusing times*. Lexham Press.
5. Campos, D. (2015). On the discretisation of probability density functions and the continuous Rényi entropy. *Pramana – Journal of Physics*, 85(6), 1073–1087. <https://doi.org/10.1007/s12043-015-0955-2>
6. Centers for Disease Control and Prevention (CDC). (2021). *Epidemiology and prevention of vaccine-preventable diseases* (14th ed.). Public Health Foundation.
7. Congregation for the Doctrine of the Faith. (2020). *Note on the morality of using some anti-COVID-19 vaccines*. https://www.vatican.va/roman_curia/congregations/cfaith/documents/rc_con_cfaith_doc_20201221_nota-vaccini-anticovid_en.html
8. Dielschneider, R. (2021). Vaccine hesitancy: Christian reasons and responses. *Perspectives on Science & Christian Faith*, 73(1).
9. Dimitrova, N. (2016). *Human knowledge, according to Saint Maximus the Confessor*. Resource Publications.
10. Fan, J., Yu, H., Miao, F., Ke, J., & Hu, R. (2024). Attenuated African swine fever viruses and the live vaccine candidates: A comprehensive review. *Microbiology Spectrum*, 12(11). <https://doi.org/10.1128/spectrum.03199-23>
11. Flessa, S. (2021). Is vaccination against COVID-19 a Christian duty? A risk-analytic approach. *Christian Journal for Global Health*, 8(2).
12. Friel, T. (2021). *Should Christians take the COVID vaccine?* Wretched. <https://www.youtube.com/watch?v=iOb9wKzIEi4>

13. George, A., Goble, H. M., Garlapati, S., Liberman, S. R., & Lambert, B. S. (2023). Demographic and lifestyle factors associated with patient-reported acute COVID-19 vaccine reactivity. *Vaccines*, *11*(6). <https://doi.org/10.3390/vaccines11061072>
14. Ghazanfari, M., Mohtasham, N. H., & Amirshuibani, M. (2016). Genre analysis of nursing and ELT academic written discourse. *Journal of Language Teaching and Research*, *7*(5), 973–978. <https://doi.org/10.17507/jltr.0705.19>
15. Giusti, D., Burette, J., Nguyen, Y., Lévêque, N., Graesslin, O., & Andreoletti, L. (2013). Virological diagnosis and management of two cases of congenital measles. *Journal of Medical Virology*, *85*(12), 2136–2138. <https://doi.org/10.1002/jmv.23702>
16. Guidolin, K., & Meglei, G. (2014). The role of vaccination in global health. *University of Western Ontario Medical Journal*, *83*. <https://doi.org/10.5206/uwomj.v83i2.4431>
17. Jones, D. G. (2022). *At the margins: A life in biomedical science, faith, and ethical dilemmas*. Resource Publications.
18. Mattick, J. S. (2003). Challenging the dogma: The hidden layer of non-protein-coding RNAs in complex organisms. *BioEssays*, *25*(10), 930–939. <https://doi.org/10.1002/bies.10332>
19. Mattick, J. S., Amaral, P. P., Dinger, M. E., Mercer, T. R., & Mehler, M. F. (2009). RNA regulation of epigenetic processes. *BioEssays*, *31*(1), 51–59. <https://doi.org/10.1002/bies.080099>
20. Michaelson, J. J., Shi, Y., Gujral, M., Zheng, H., Malhotra, D., Jin, X., Jian, M., Liu, G., Greer, D., Bhandari, A., Wu, W., Corominas, R., Peoples, Á., Koren, A., Gore, A., Kang, S., Lin, G. N., Estabillo, J., Gadomski, T., ... Sebat, J. (2012). Whole-genome sequencing in autism identifies hot spots for de novo germline mutation. *Cell*, *151*(7), 1431–1442. <https://doi.org/10.1016/j.cell.2012.11.019>
21. Morgan, C. W., & Peterson, R. A. (2020). *A concise dictionary of theological terms*. B & H Academic.
22. Navandar, M., Vennin, C., Lutz, B., & Gerber, S. (2024). Long non-coding RNAs expression and regulation across different brain regions in primates. *Scientific Data*, *11*(1). <https://doi.org/10.1038/s41597-024-03380-3>
23. Nawaz Ali, G. G. M., Rahman, M. M., Hossain, M. A., Rahman, M. S., Paul, K. C., Thill, J. C., & Samuel, J. (2021). Public perceptions of COVID-19 vaccines: Policy implications from U.S. spatiotemporal sentiment analytics. *Healthcare (Switzerland)*, *9*(9). <https://doi.org/10.3390/healthcare9091110>
24. Nishiyama, Y., Matsukuma, S., Matsumura, T., Kanatani, Y., & Saito, T. (2015). Preparedness for a smallpox pandemic in Japan: Public health perspectives. *Disaster Medicine and Public Health Preparedness*, *9*(2), 220–223. <https://doi.org/10.1017/dmp.2014.157>
25. Olivera Mesa, D., Hogan, A. B., Watson, O. J., Charles, G. D., Hauck, K., Ghani, A. C., & Winskill, P. (2022). Modelling the impact of vaccine hesitancy in prolonging the need for non-pharmaceutical interventions to control the COVID-19 pandemic. *Communications Medicine*, *2*(1). <https://doi.org/10.1038/s43856-022-00075-x>
26. Pontifical Academy for Life. (2005, June 9). *Moral reflections on vaccines prepared from cells derived from aborted human fetuses*. <https://www.catholicculture.org/culture/library/view.cfm?recnum=6539>
27. Renia, L., Goh, Y. S., Rouers, A., Le Bert, N., Chia, W. N., Chavatte, J. M., Fong, S.-W., Chang, Z. W., Zhuo, N. Z., Tay, M. Z., Chan, Y. H., Tan, C. W., Yeo, N. K., Amrun, S. N., Huang, Y., Wong, J. X. E., Hor, P. X., Loh, C. Y., Wang, B., ... Ng, L. F. P. (2022). Lower vaccine-acquired immunity in the

- elderly population following two-dose BNT162b2 vaccination is alleviated by a third vaccine dose. *Nature Communications*, 13(1). <https://doi.org/10.1038/s41467-022-32312-1>
- 28.** Roos, J. M. (2017). Contested knowledge and spillover. *Social Currents*, 4(4), 360–379. <https://doi.org/10.1177/2329496516670187>
- 29.** Tippins, E., Ysseldyk, R., Peneycad, C., & Anisman, H. (2023). Believing in science: Linking religious beliefs and identity with vaccination intentions and trust in science during the COVID-19 pandemic. *Public Understanding of Science*, 32(8), 1003–1020. <https://doi.org/10.1177/09636625231174845>
- 30.** Walter, N. G. (2024). Are non-protein coding RNAs junk or treasure? An attempt to explain and reconcile opposing viewpoints of whether the human genome is mostly transcribed into non-functional or functional RNAs. *BioEssays*, 46(4). <https://doi.org/10.1002/bies.202300201>
- 31.** Ward, V., Wei, J., Gordon, W., Barnes, E., Dunachie, S., Jeffery, K., Eyre, D., & O'Donnell, A. M. (2022). SARS-CoV-2 antibody responses post-vaccination in UK healthcare workers with pre-existing medical conditions: A cohort study. *BMJ Open*, 12(12). <https://doi.org/10.1136/bmjopen-2022-066766>
- 32.** Warren, E. J. (2021). *All things wise and wonderful: A Christian understanding of how and why things happen, in light of COVID-19*. Wipf and Stock.
- 33.** Wondimeneh, Y., Tiruneh, M., Ferede, G., Denekew, K., Admassu, F., & Tessema, B. (2018). Hospital-based surveillance of congenital rubella syndrome cases in the pre-vaccine era in Amhara Regional State, Ethiopia: A baseline information for the country. *PLoS ONE*, 13(11). <https://doi.org/10.1371/journal.pone.0207095>