

## **Risk of Complications in Children with Type 1 Diabetes and Covid-19**

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**Background:** There is some data available in adults which suggests that Type 1 diabetes may be associated with higher risk with Covid-19 (1). Limited data has been available in pediatric Type 1 diabetes with Covid-19 Methods: We used TriNetX, with a large COVID-19 database, collecting real-time electronic medical records data. We compared children (0-18 years) who were diagnosed with Covid-19 with and without Type 1 diabetes. This database collected information from 54 health care organizations.

**Results:** Mortality rate in children with Covid-19 and Type 1 diabetes was 0.618% (10/1618). Mortality rate in children with Covid-19 without Type 1 diabetes was 0.102% (257/251517). Relative risk of mortality for children with Covid-19 and Type 1 diabetes was 6.05 with a p value of < 0.0001. Endotracheal intubation rate in children with Covid-19 and Type 1 diabetes was 0.618% (10/1618). Endotracheal intubation rate in children with Covid-19 without Type 1 diabetes was 0.071% (178/251517). Relative risk of endotracheal intubation for children with Covid-19 and Type 1 diabetes was 8.73 with a p value of < 0.0001. Pneumonia rate in children with Covid-19 and Type 1 diabetes was 0.804% (13/1618). Pneumonia rate in children with Covid-19 without Type 1 diabetes was 0.562% (1414/251517). Relative risk of pneumonia for children with Covid-19 and Type 1 diabetes was 1.43 with a p value of < 0.1959. Septic shock rate in children with Covid-19 and Type 1 diabetes was 1.05% (17/1618). Septic shock rate in children with Covid-19 without Type 1 diabetes was 0.293% (737/251517). Relative risk of septic shock for children with Covid-19 and Type 1 diabetes was 3.59 with a p value of < 0.00001.

**Conclusion:** Mortality rate, endotracheal and septic shock were increased in children with Type 1 diabetes and Covid-19 versus children with Covid-19 and no Type 1 diabetes. Further studies with larger sample size are needed to study complication rate of Covid-19 and Type 1 diabetes. References 1) Associations of type 1 and type 2 diabetes with COVID-19-related mortality in England: a whole-population study. *Lancet Diabetes Endocrinol* 2020 Oct;8(10):813-822. doi: 10.1016/S2213-8587(20)30272-2. Epub 2020 Aug 13.

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