**Effect of Magnesium Sulfate on Persistent Pulmonary Hypertension of the Newborn: A Systematic Review and Meta-Analysis**

**Search Strategy**

**PUBMED**

#1: (Infant, Newborn [Mesh]) OR (Neonat\* [Title/Abstract]) OR (Newborn [Title/Abstract]) OR (infant\* [Title/Abstract]) OR (bab\* [Title/Abstract]) OR (Infant, Premature [Mesh]) OR (preterm [Title/Abstract]) OR (prematur\* [Title/Abstract])

#2: Persistent Fetal Circulation Syndrome [Mesh] OR Persistent Pulmonary Hypertension [Title/Abstract] OR ACDMPV [Title/Abstract] OR Alveolar Capillary Dysplasia With Misalignment Of Pulmonary Veins [Title/Abstract] OR Persistent Fetal Circulation [Title/Abstract] OR Misalignment of the Pulmonary Vessels [Title/Abstract] OR PPHN [Title/Abstract]

#3: Magnesium sulfate [Mesh] OR Magnesium [Title/Abstract]

**WOS**

#1(newborn OR neonate OR premat OR preterm OR low birth weight OR VLBW OR LBW OR ELBW OR infant)

#2 TS=(Persistent Fetal Circulation SyndromeOR Persistent Pulmonary Hypertension OR ACDMPV OR Alveolar Capillary Dysplasia With Misalignment Of Pulmonary Veins OR Persistent Fetal Circulation OR Misalignment of the Pulmonary Vessels OR PPHN)

#3 TS= (Magnesium Sulphate or Sulfate, Magnesium OR Magnesium Sulfate, Heptahydrate OR Heptahydrate Magnesium Sulfate OR Magnesium )

#4 #3 AND #2 AND #1

**Cochrane**

#1 MeSH descriptor: [Magnesium Sulfate] explode all trees

#2 Magnesium:ti,ab,kw

#3 newborn:ti,ab,kw OR neonate:ti,ab,kw OR premat:ti,ab,kw OR preterm:ti,ab,kw OR low birth weight:ti,ab,kw OR VLBW:ti,ab,kw OR LBW:ti,ab,kw OR ELBW:ti,ab,kw OR infant:ti,ab,kw

#4 Persistent Pulmonary Hypertension:ti,ab,kw OR ACDMPV:ti,ab,kw OR Alveolar Capillary Dysplasia With Misalignment Of Pulmonary Veins:ti,ab,kw OR Persistent Fetal Circulation:ti,ab,kw OR Misalignment of the Pulmonary Vessels:ti,ab,kw OR PPHN:ti,ab,kw

#5 MeSH descriptor: [Persistent Fetal Circulation Syndrome] explode all trees

(#1 OR #2) AND #3 AND (#4 OR #5)

**EMBASE**

#1 'newborn'/exp OR neonat\*:ab,ti OR newborn:ab,ti OR infant\*:ab,ti OR bab\*:ab,ti OR 'prematurity'/exp OR 'preterm':ab,ti OR prematur\*:ab,ti

#2 'persistent pulmonary hypertension'/exp OR 'persistent fetal circulation syndrome':ab,ti OR 'persistent pulmonary hypertension':ab,ti OR 'acdmpv':ab,ti OR 'alveolar capillary dysplasia with misalignment of pulmona ry veins':ab,ti OR 'persistent fetal circulation':ab,ti OR 'misalignment of the pulmonary vessels':ab,ti OR 'pphn':ab,ti

#3 'magnesium sulfate'/exp OR 'magnesium':ab,ti

#4 #1 AND #2 AND #3

**Table 1 The Newcastle-Ottawa Scale (NOS) for assessing the quality of included studies in meta-analysis**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Study | Selection | Comparability | Exposure | Total score |
| Abu-Osba 1992 | \*\* | \*\* | \*\*\* | 7 |
| Abdelkreem 2021 | \*\* | \*\* | \*\*\* | 7 |
| Tolsa 1995 | \*\* | \*\* | \*\*\* | 7 |
| Chandran 2004 | \*\* | \*\* | \*\*\* | 7 |
| Huang 2021 | \*\* | \*\* | \*\*\* | 7 |
| Raimondi 2007 | \*\* | \*\* | \*\*\* | 7 |
| Mamun 2019 | \*\* | \*\* | \*\*\* | 7 |
| Mohamed 2007 | \*\* | \*\* | \*\*\* | 7 |
| Uslu 2011 | \*\* | \*\* | \*\*\* | 7 |
| Wu 1995 | \*\* | \*\* | \*\*\* | 7 |
| Dehdashtian 2007 | \*\* | \*\* | \*\*\* | 7 |
| Shaltout 2012 | \*\* | \*\* | \*\*\* | 7 |

Foot note: Each asterisk represents one star in the Newcastle-Ottawa Scaling System (NOS). Each star contributes to the total score. A score of 5 to 6 indicates moderate quality, while a score of 7 to 9 signifies high quality.