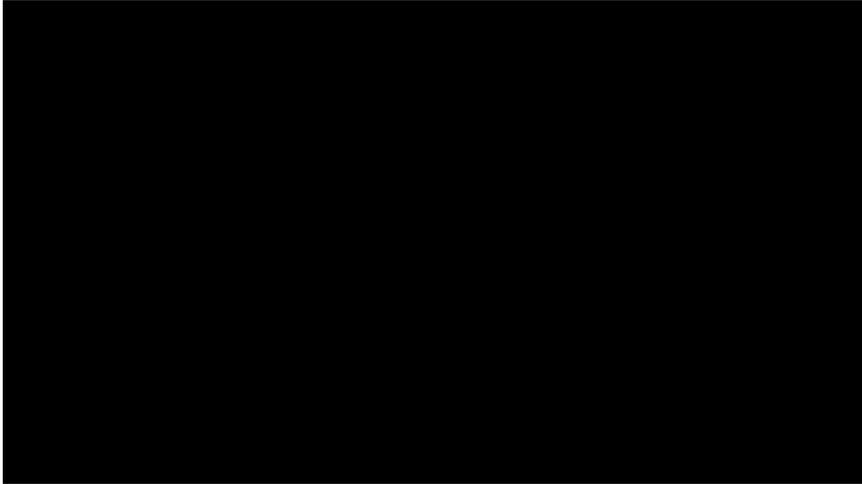


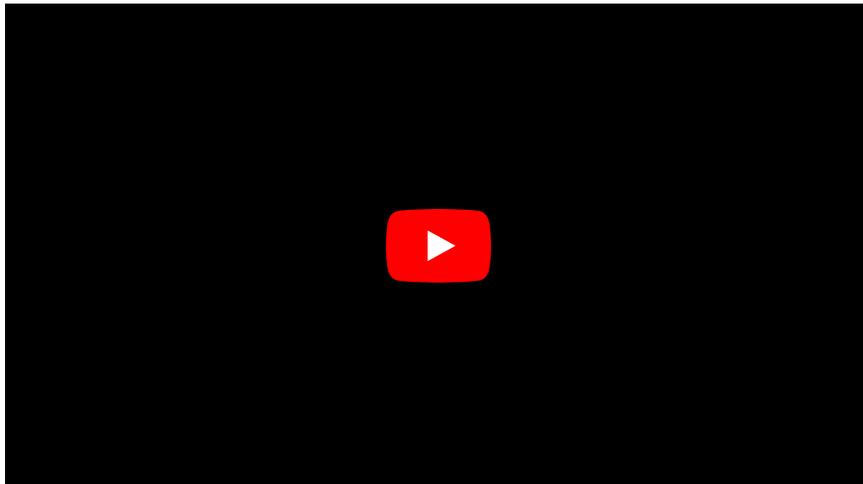
# Acute respiratory distress syndrome

This article is about acute lung injury in *adults* (ARDS). Disability in premature infants (RDS) is discussed in the article Respiratory distress syndrome (pediatrics) .

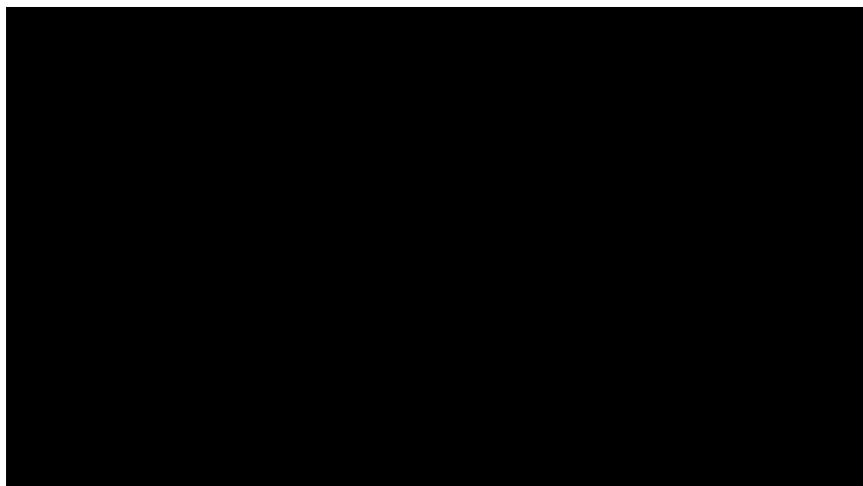
## ARDS:



## ARDS causes:



## ARDS and NRDS:



**Acute respiratory distress syndrome** (ARDS, a *cute respiratory distress syndrome* , *adult respiratory distress syndrome* ) is an acute form of lung damage. ARDS is the result of an **inappropriate inflammatory response** in the lung tissue, which can be triggered by both infectious and non-infectious agents. During this reaction, lung

alveoli are damaged, fluid accumulates in the lungs, and the diffusion path of oxygen is lengthened. ARDS most often occurs as a result of aspiration of gastric contents, severe trauma, lung infection, drowning and is a clinical manifestation of shock lung <sup>[1]</sup>.

## Pathogenesis

During the inflammatory reaction, the alveoli are damaged, or pneumocytes of the first order. There is a failure of regulatory mechanisms that should remove excess fluid from the alveoli. The following features are characteristic of ARDS itself:

- **increased permeability** of pulmonary capillaries,
- **fluid accumulation** in the parenchyma and alveoli,
- **diffuse damage to the epithelium of the alveoli** - i.e. pneumocytes of the first order.

The result of these changes is, on the one hand , **an extension of the diffusion path** for blood gases, and on the other hand, the presence of fluid in the lungs. It also contains proteins. ARDS is distinguished from pulmonary edema itself by the **presence of proteins in the filtered fluid** . The lungs are heavy and edematous. In addition, hemorrhagic exudate is also present in the lungs.

## Clinical picture

Acute respiratory distress syndrome is characterized by:

1. shortness of breath
2. tachypnea,
3. hypoxemia<sup>[1]</sup>.

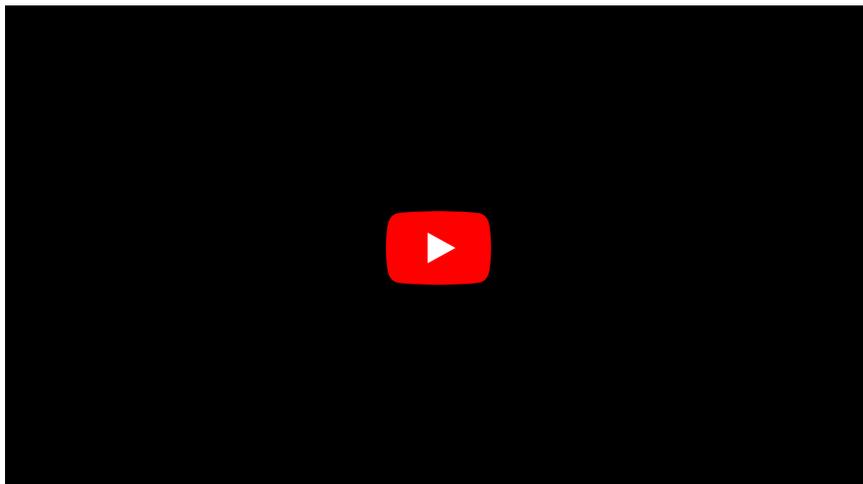
⚠ The most serious symptom is **hypoxemia** , which does not respond to oxygen treatment and its extent decides the fate of the patient.

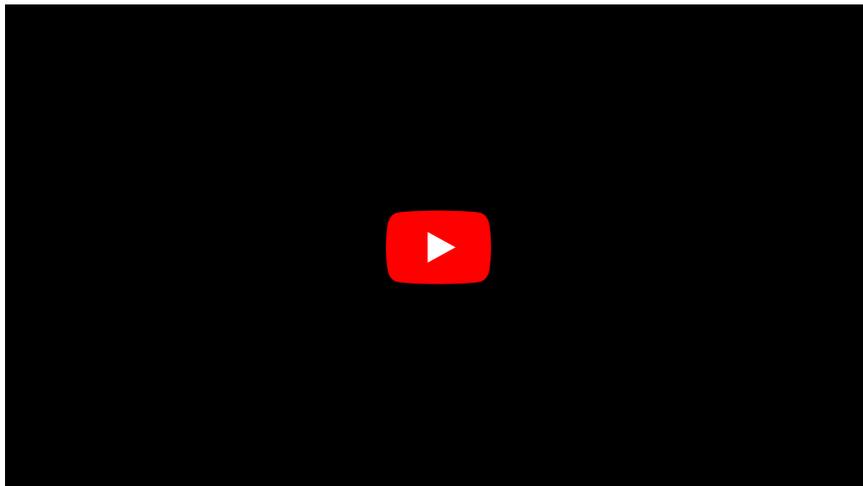
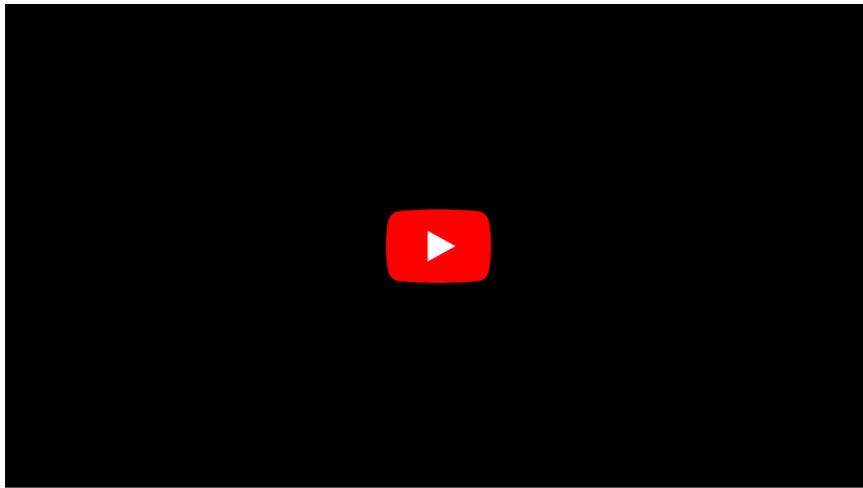
**The mortality rate of ARDS** is 30-60%. The patient dies most often of sepsis and multi-organ failure (MODS).

## Diagnosis

The diagnosis is determined on the basis of an X-ray image of the lungs, hypoxemia, reduced lung compliance and the absence of increased pressure in the left atrium, or of normal wedging pressure, which indicates that postcapillary pulmonary pressure is not elevated.

⚠ **ARDS must be distinguished from respiratory distress syndrome of prematurity caused by surfactant deficiency** .





## Links

### Related Articles

- Shock
- Respiratory distress syndrome (pediatrics)
- Pneumonia (pediatrics) | Pneumonia without typical X-ray findings | Pneumonia of infants

### External links

- [Wikipedia:ARDS \(English\)](#)

### Source

- NEČAS, Emanuel – ŠULC, Karel – VOKURKA, Martin, et al. *Patologická fyziologie orgánových systémů. Část I.* 1. edition. Praha : Karolinum, 2006. 0 pp. ISBN 978-80-246-0615-6.

### References

1. ZVONICEK, Václav. *Acute respiratory distress syndrome* [online]. Zdravotnic noviny, [cit. 2012-01-27]. <<https://zdravi.euro.cz/clanek/priloha-lekarske-listy/syndrom-akutni-dechove-tisne-135694>>.