New Respiratory Syncytial Virus (RSV) Vaccines for Older Adults: General Information and Clinical Guidance

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77 year old male presents with fever, mild congestion, cough, and wheezing for 3 days. He has noted mild dyspnea and is not sleeping well. He lives in a skilled nursing facility where no one else has reported being sick recently with similar symptoms.

He is a former smoker – quit 8 years ago and drinks occasionally. He lives a sedentary lifestyle and is obese. He is a widower and has two children and five grandchildren who visit him frequently.

His past medical history is significant for asthma, hypertension, and hyperlipidemia.
**Case Presentation**

- His medications are fluticasone-salmeterol, hydrochlorothiazide, lisinopril, and atorvastatin. He uses albuterol as needed and has been using it consistently over the last 2 days. He has been taking Tylenol for his fever and his doctor started him on a short course of prednisone.

- T 101.5  BP 145/87  RR 18  P 88  pulse ox 95% on room air

- He is tested negative for influenza and SARS CoV-2 on day 2 of his illness
Respiratory Syncytial Virus (RSV) in Adults
About Respiratory Syncytial Virus (RSV)

Common respiratory virus

Causes mild, cold-like symptoms

Seasonal epidemics

Spread through respiratory droplets, direct contact, fomites

https://www.cdc.gov/rsv/index.html
Changes in seasonality of RSV transmission following SARS-CoV2 introduction—NREVSS\(^1\), 2017–2023

Abbreviation: PCR = polymerase chain reaction; RSV = respiratory syncytial virus.

1. [https://www.cdc.gov/mmwr/volumes/72/wr/mm7214a1.htm](https://www.cdc.gov/mmwr/volumes/72/wr/mm7214a1.htm)

* 3-week centered moving averages of percentage of RSV-positive PCR results nationwide. The black dotted line represents the threshold for a seasonal epidemic (3% RSV-positive laboratory PCR results).
Annual RSV Burden Among Adults Ages 65 Years and Older

- 900,000–1,400,000 medical encounters
- 60,000–160,000 hospitalizations
- 6,000–10,000 deaths

Clinical Presentation in Adults

- Usually **mild or no symptoms**
  - runny nose, sore throat, cough, headache, fatigue, and fever
- Older adults are at **increased risk** for becoming **seriously ill**
- This includes:
  - Lower respiratory tract infection
  - Exacerbation of existing conditions

https://www.cdc.gov/rsv/clinical/index.html
Chronic Underlying Medical Conditions Associated with Increased Risk of Severe RSV Disease

- Lung disease
- Cardiovascular disease
- Moderate or severe immune compromise
- Diabetes Mellitus
- Neurologic or neuromuscular conditions
- Kidney disorders
- Liver disorders
- Hematologic disorders
- Other conditions that might increase the risk for severe disease

https://www.cdc.gov/mmwr/volumes/72/wr/mm7229a4.htm
Other Factors Associated with Increased Risk of Severe RSV Disease

- Residence in a nursing home or other long-term care facility (LTCF)
- Frailty
- Advanced age

There is no consensus definition, but Fried frailty phenotype defines frailty as 3 or more of the following:
- Unintentional weight loss (10 pounds in past year)
- Self-reported exhaustion
- Weakness (grip strength)
- Slow walking speed
- Low physical activity

https://www.cdc.gov/mmwr/volumes/72/wr/mm7229a4.htm
Self-knowledge check

Which of the following statements about RSV clinical symptoms in older adults is FALSE?

a. RSV only causes upper respiratory symptoms like runny nose and sore throat
b. RSV can cause lower respiratory tract infection (e.g., pneumonia)
c. RSV infection can cause exacerbation (flare) of existing chronic conditions
d. Clinical symptoms are non-specific and overlap with symptoms of other respiratory infections
The correct answer is:

a. **RSV only causes upper respiratory symptoms like runny nose and sore throat**

**Rationale:** Although RSV infection in most adults typically causes mild upper respiratory symptoms, older adults are at increased risk of serious illness, compared with younger adults. Serious illness from RSV can include lower respiratory tract infection, like pneumonia, or an exacerbation of existing chronic conditions, like congestive heart failure or chronic obstructive pulmonary disease (COPD).
Recommendations and clinical guidance for use of RSV vaccines in older adults
ACIP and CDC recommend that adults ages 60 years and older may receive a **single dose** of RSV vaccine using **shared clinical decision making**.

https://www.cdc.gov/mmwr/volumes/72/wr/mm7229a4.htm
Shared clinical decision-making

- There is no **default decision** to vaccinate.
- Recommendations are **individually based** and informed by a decision process between the **health care provider and patient**.

- **Best available evidence**
- **Patients’ risk for disease, characteristics, values, preferences**
- **Clinical discretion**
- **Characteristics of the vaccine**

[https://www.cdc.gov/vaccines/acip/acip-scdm-faqs.html](https://www.cdc.gov/vaccines/acip/acip-scdm-faqs.html)
Coadministration

- Coadministration with **all** other adult vaccines is **acceptable**.

- If vaccines are NOT administered the same day, **there is no required interval between vaccines**.

https://www.cdc.gov/mmwr/volumes/72/wr/mm7229a4.htm
There are currently limited data available on immunogenicity of coadministration of RSV vaccines and other vaccines.

In general, coadministration of RSV and seasonal influenza vaccines met non-inferiority criteria for immunogenicity.*

However, RSV and influenza antibody titers were generally somewhat lower with coadministration; the clinical significance of this is unknown.

Additional studies on immunogenicity of coadministration of RSV with other adult vaccines are in process.

* Pre-specified non-inferiority criteria for immune responses were met across trials, with the exception of the FluA/Darwin H3N2 strain after simultaneous administration of RSVPreF3 vaccine (Arexvy by GSK) and adjuvanted quadrivalent inactivated influenza vaccine.

RSV vaccine resources

- RSV Vaccination: What Older Adults 60 Years of Age and Over Should Know | CDC (https://www.cdc.gov/vaccines/vpd/rsv/public/older-adults.html)


- Healthcare Providers: RSV Vaccination for Adults 60 Years of Age and Over | CDC (https://www.cdc.gov/vaccines/vpd/rsv/hcp/older-adults.html)

Acknowledgements

Michael Melgar
Lauren Roper
Hannah Rosenblum
Melinda Wharton
Tara Anderson
Lisa Grohskopf
David Shay
Tom Shimabukuro
Karen Broder
Mila Prill
Anne Hause
Fiona Havers
Diya Surie
Jennifer DeCuir
Meredith McMorrow
Jefferson Jones
Katherine Fleming-Dutra
Ruth Link-Gelles
Andrew Kroger
Elisha Hall
Manisha Patel
Sarah Meyer
Neil Murthy
Patricia Wodi
Sara Oliver
Kara Jacobs Slifka
Nimalie Stone
Theresa Rowe
Jeneita Bell
Melissa Schaefer

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