Viral Respiratory tract infections

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Man flu DOES exist: Why women deal wit... express.co.uk



Influenza myth busters | ScienceNordic sciencenordic.com



Stay Safer This Flu Season • HealthMint healthmint.com.au



Decoding the Symptoms: Influe... chcp.edu



Moss Vale Community Phar... mvcp.com.au



MAHC Taking Additional Ste... muskoka411.com



How To Avoid A Flu This Winter spigy.com



Influenza | ClearFection clearfection.com



Fighting Flu Season: How to Protect ... allbetterpediatricgroup.com



Flu Quiz: What's Fact and What's Fiction? webmd.com





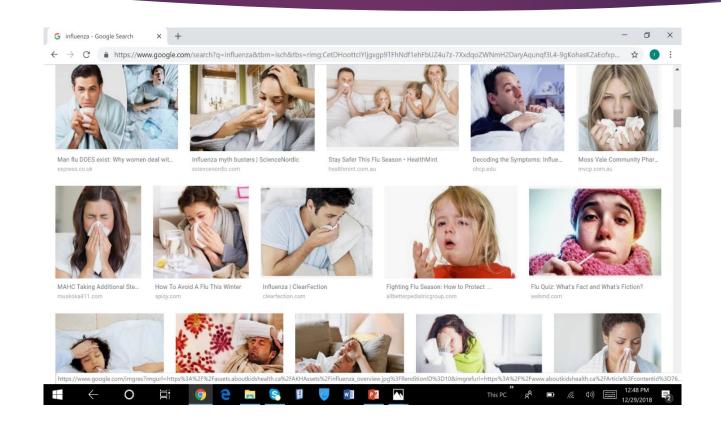






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چه خواهید کرد؟









Rhinoviruse ...Influenza... coronaviruse

...RSV...Parainfluenza...

Common cold





Table 428.1 Pathogens* Associated with the Common Cold				
ASSOCIATION	PATHOGEN	RELATIVE FREQUENCY**	OTHER COMMON SYMPTOMS AND SIGNS	
Agents primarily associated with the common cold	Rhinoviruses Coronaviruses, including SARS-CoV-2 variants	Frequent Frequent	Wheezing/bronchiolitis	
Agents primarily associated with other clinical syndromes that also cause common cold symptoms	Respiratory syncytial virus Human metapneumovirus Bocavirus Influenza viruses Parainfluenza viruses Adenoviruses	Occasional Occasional Occasional Uncommon Uncommon Uncommon	Bronchiolitis in children <2 yr of age Pneumonia and bronchiolitis Uncertain role Influenza-like illness, pneumonia, croup Croup, bronchiolitis Pharyngoconjunctival fever (palpebral conjunctivitis,	

Uncommon

watery eye discharge, pharyngeal erythema)

Herpangina (fever and ulcerated papules on

posterior oropharynx)

Aseptic meningitis

Enteroviruses

Coxsackievirus A

Other nonpolio enteroviruses

^{*}It is not unusual to have one or more respiratory pathogens.

^{**}Relative frequency of colds caused by the agent.

Table 428.2 Conditions that Can Mimic the Common Cold

CONDITION	DIFFERENTIATING FEATURES	
Allergic rhinitis	Prominent itching and sneezing, nasal eosinophils; Hansel stain can aid diagnosis	
Vasomotor rhinitis	May be triggered by irritants, weather changes, spicy foods, etc.	
Rhinitis medicamentosa	History of nasal decongestant use	
Foreign body	Unilateral, foul-smelling secretions	
	Bloody nasal secretions	
Sinusitis	Presence of fever, headache or facial pain, or periorbital edema or persistence of rhinorrhea or cough for longer than 10-14 days	
Streptococcosis	Mucopurulent nasal discharge that excoriates the nares, no cough	
Pertussis	Onset of persistent or severe paroxysmal cough	
Congenital syphilis	Persistent rhinorrhea with onset in the first 3mo of life	

- Respiratory tract infections are the most reason of office visits
- ■Common colds account for one-third to one-half of all acute respiratory infections in humans.

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Annual incidence (colds per year)
Children 6 to 8
Adults (16 to 45) 2 to 3
Adults (>45 years) 1
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■ The upper respiratory tract infection

nasal stuffiness

sneezing

coryza

throat irritation or sore throat

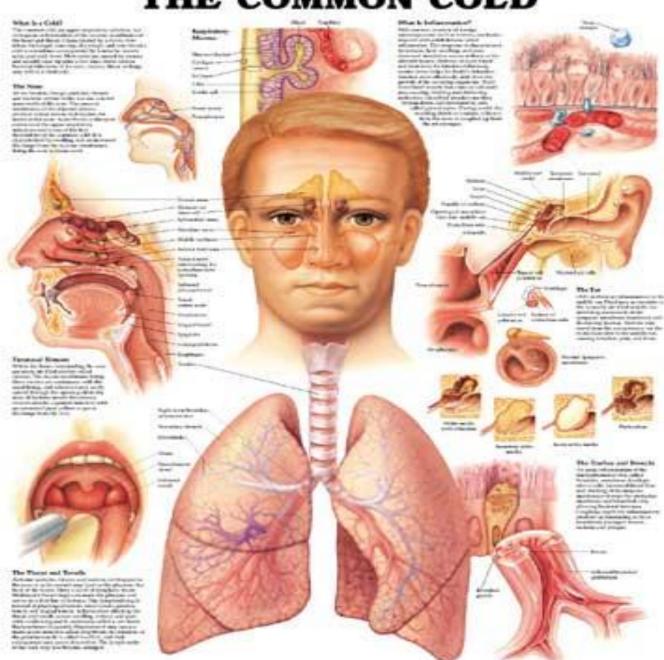
fever

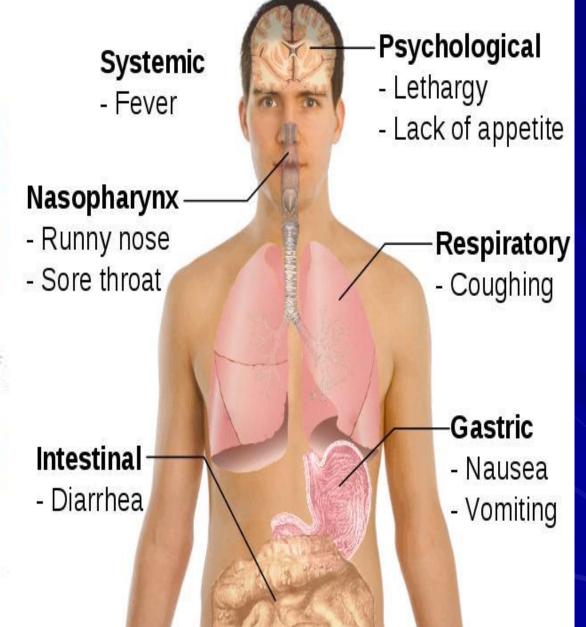
myalgia

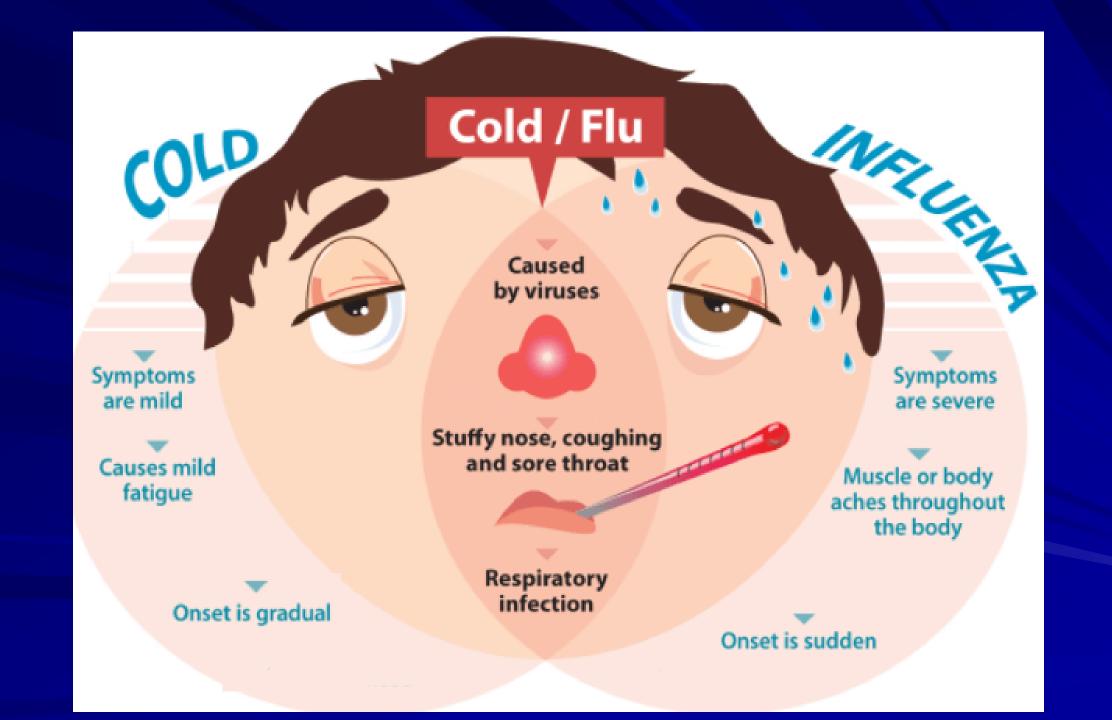
malaise or loss of appetite

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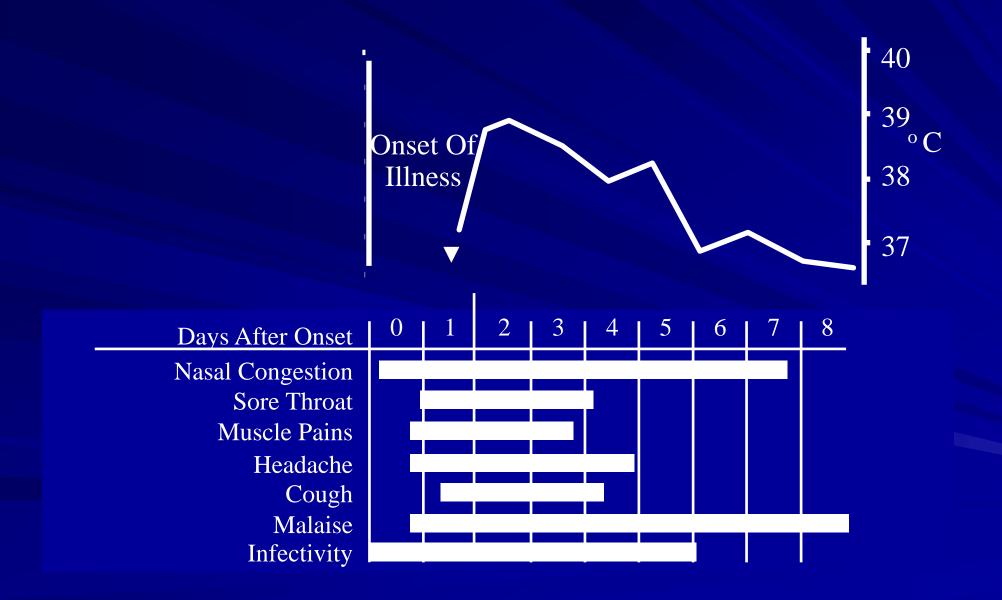
UNDERSTANDING THE COMMON COLD







Clinical Characteristics of Infection



Diagnosis

- Diagnosis is based on clinical signs and symptoms
 - Nasopharyngeal swab or aspirate can be obtained for a rapid antigen or PCR

Chest x-ray usually normal





People at <u>high risk</u> of serious flu <u>complications</u> recommended for prompt antiviral treatment

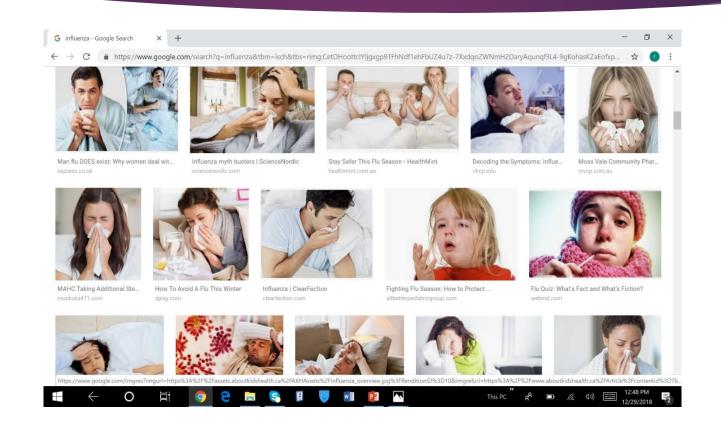
- Asthma
- Neurologic and neurodevelopment conditions
- Blood disorders (such as sickle cell disease)
- Chronic lung disease (such as chronic obstructive pulmonary disease [COPD] and cystic fibrosis)
- Endocrine disorders (such as diabetes mellitus)
- Heart disease (such as congenital heart disease, congestive heart failure and coronary artery disease)
- Kidney disorders
- Liver disorders
- Metabolic disorders (such as inherited metabolic disorders and mitochondrial disorders)

- People who are obese with a body mass index [BMI] of 40 or higher
- People younger than 19 years of age on long-term aspirin- or salicylate-containing medications.
- People with a weakened immune system due to disease (such as people with HIV or AIDS, or some cancers such as leukemia) or medications (such as those receiving chemotherapy or radiation treatment for cancer, or persons with chronic conditions requiring chronic corticosteroids or other drugs that suppress the immune system)

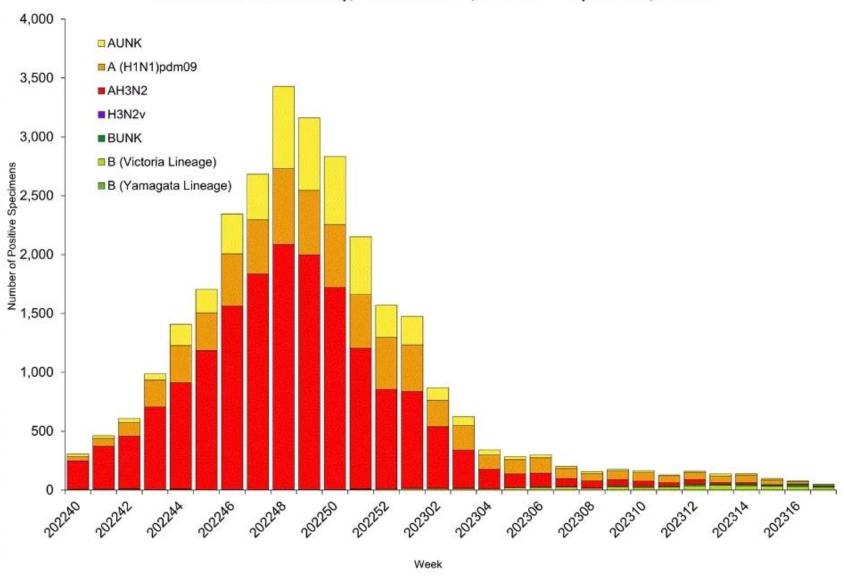


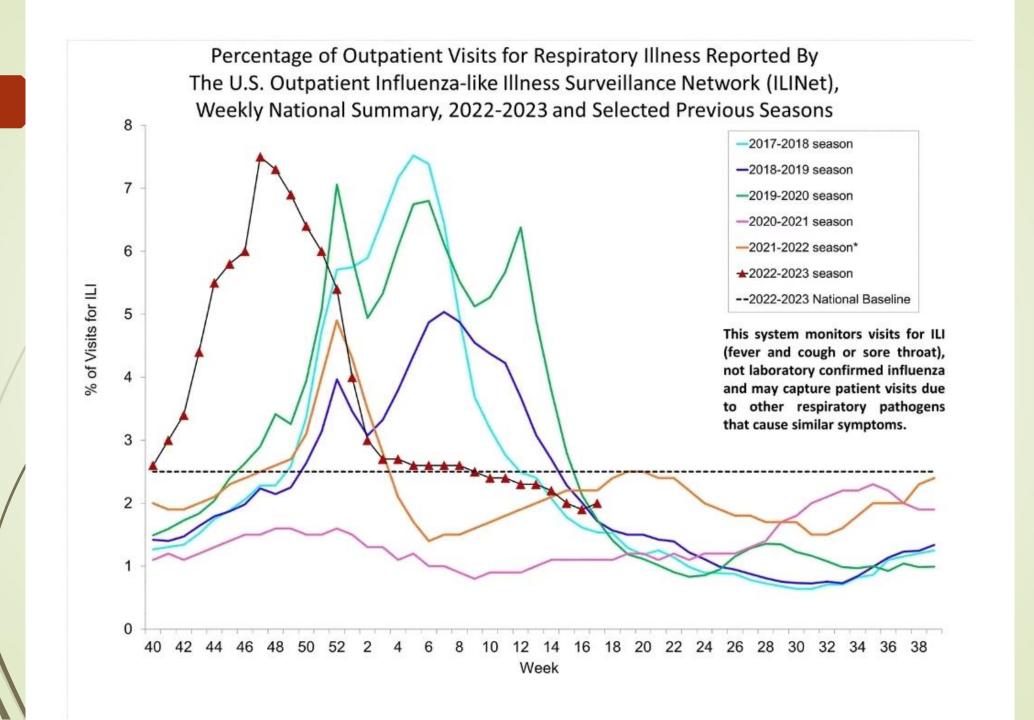
- Adults 65 years and older
- Although all children younger than 5 years old are considered at high risk for serious flu complications, the highest risk is for those younger than 2 years old, with the highest hospitalization and death rates among infants younger than 6 months old.
- Pregnant women and women up to 2 weeks after the end of pregnancy
- People who live in nursing homes and other long-term care facilities
- people who are very sick with flu (such as those with complicated, progressive illness or people hospitalized because of flu). Studies show that prompt treatment with antiviral drugs can prevent serious flu complications

آیا فصل و یا ماهی که در آن فردی بیماری تنفسی می گیرد در تشخیص شما مهم است؟



Influenza Positive Tests Reported to CDC by U.S. Public Health Laboratories, National Summary, October 2, 2022 – April 29, 2023





در مرکز تحقیقات استاد البرزی امروز ۳۲ نمونه برای ویروس های تنفسی از بیماران علامت دار گذاشته شد.

نمونه های مثبت :

آنفولانزا-۱

کووید-۲

RSV-5

پاراآنفولانزا-۱۱ مورد مثبت بودند.

در پی شیوع پنومونی شدید در یک شیرخوارگاه ، دیروز در مرکز تحقیقات استاد البرزی با همکاری معاونت بهداشتی دانشگاه علوم پزشکی شیراز تعداد بیست و هشت نمونه از شیرخواران این محل به همراه بیست نمونه دیگر از شیرخواران بستری و سرپایی با پنومونی برای سه ویروس آنفلوانزا ، کوید و RSV تست PCR انجام شد که از این تعداد هیچ کدام برای آنفلوانزا و کوید مثبت نشدند ولی سیزده مورد برای RSV مثبت شدند.

موج ششم؟

موج اول موج دوم موج سوم موج چهارم موج پنجم موج

سخنگوی وزارت بهداشت از مشاهده نخستین مورد ابتلا به زیرسویههای جدید اومیکرون در کشور خبر داد.

او گفت: روز گذشته، سه مورد ابتلاء به زیرسویههای جدید اومیکرون که در بسیاری کشورهای جهان شایع است، در کشورمان مشاهده شد.

وی افزود: از این سه مورد، دو نمونه مربوط به زیرسویه BQ۱ و یک مورد مربوط به زیرسویه XBB است.

سخنگوی وزارت بهداشت افزود: این نمونهها در آزمایشگاه مرجع دانشکده بهداشت دانشگاه علوم پزشکی تهران تشخیص داده شده است.

او اضافه کرد: با توجه به سرعت انتقال بالای این زیرسویهها در روزهای آینده شاهد افزایش آمار ابتلاء به این زیرسویههای جدید خواهیم بود.

New deaths attributed to Covid-19 in Iran, Turkey, UAE, Iraq, Egypt and Azerbaijan

Seven-day rolling average of new deaths (per 100k)

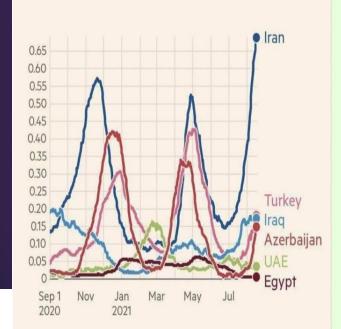
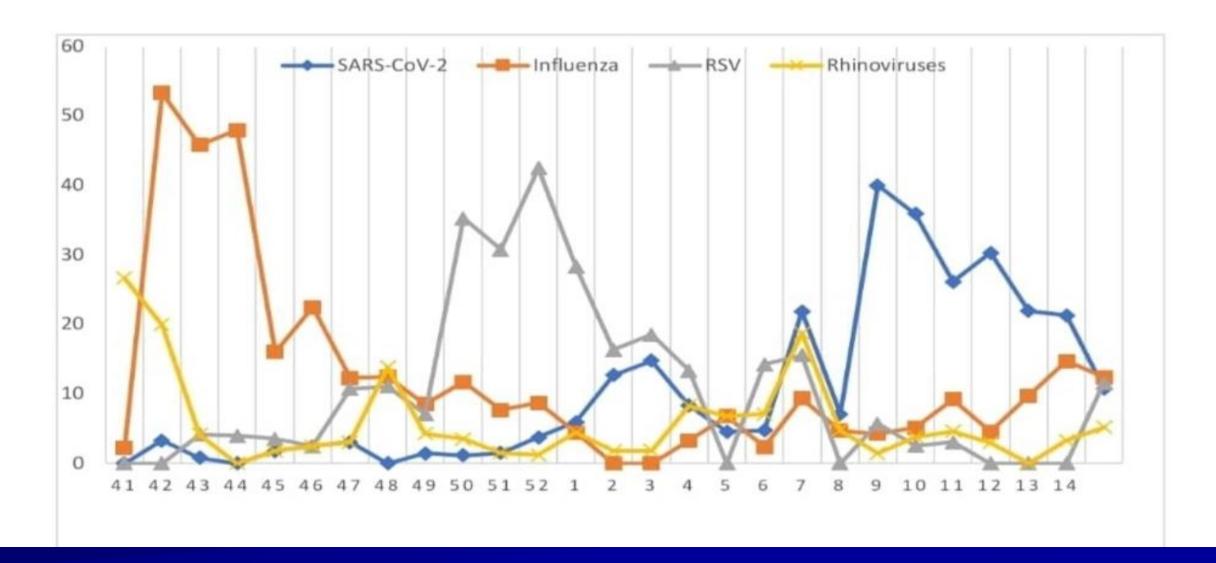


Figure 1. Virus detections in respiratory specimens received from October 11, 2022 to April 9, 2023 are shown by week of receipt.



You Photo



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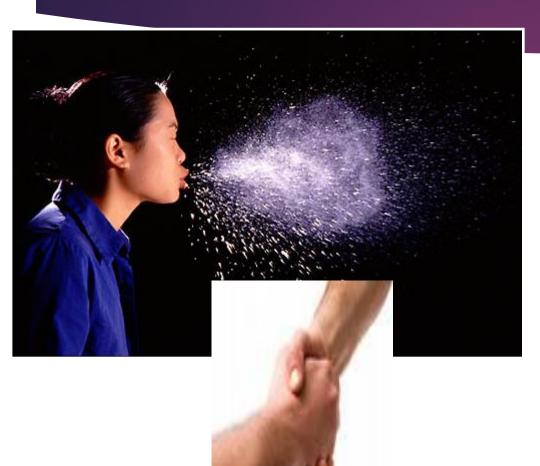
به گزارش ایسنا، دکتر شهنام عرشی رئیس مرکز مدیریت بیماریهای واگیر وزارت بهداشت درباره رصد و پایش بیماریهای تنفسی در کشور گفت: «سیستم دیدهوری بیماریهای تنفسی را در تابستان سال ۱۴۰۲ تقویت کردیم. به نحوی که برای اولین بار حدود ۲۱ ویروس تنفسی یا ویروسهایی که علائم تنفسی ایجاد میکنند در حداقل ۱۵ نقطه کشور را به صورت مرتب هفتگی نمونهبرداری میکنیم و نوع ویروسها شناسایی میشود که بدانیم چه ویروسهایی علائم سرماخوردگی و تنفسی را ایجاد میکنند.»



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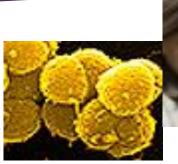
سلام آیا ما هم جز ۱۵ مرکز هستیم؟ آیا از نتایج خبر دارید؟

برای پیش گیری از بیماری های تنفسی چه باید کرد؟



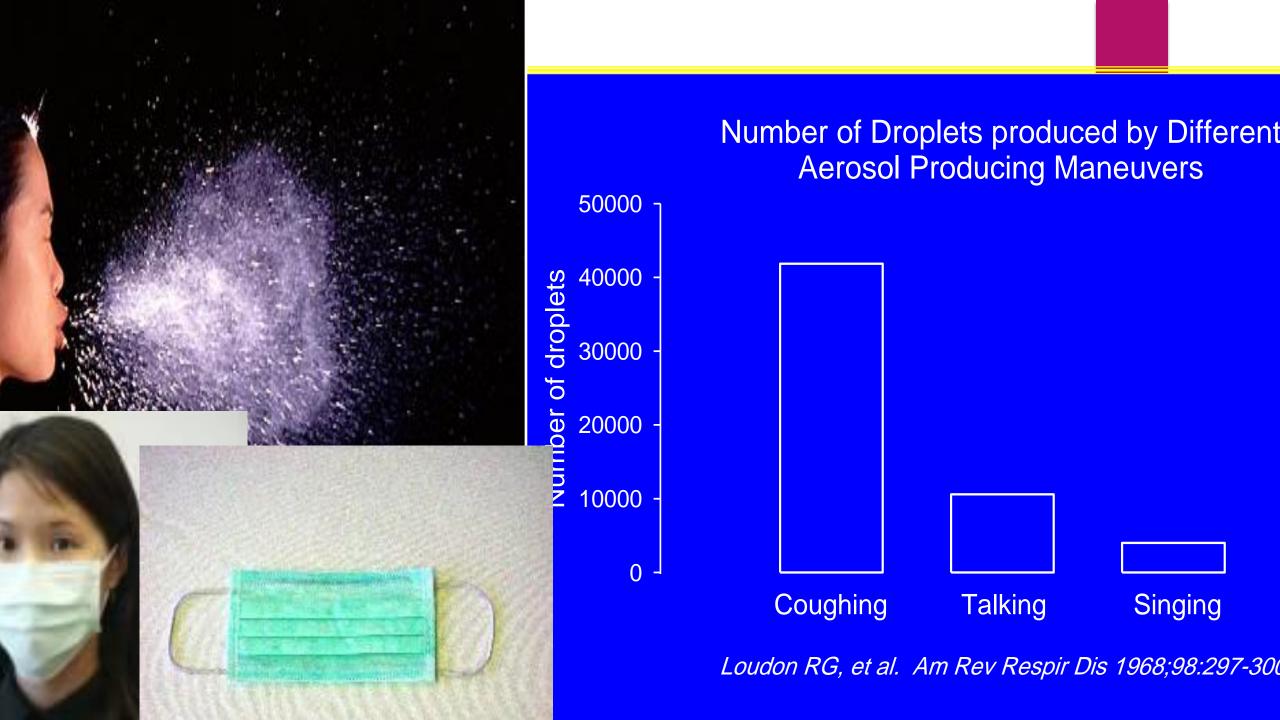












How transmissible are BA.4/5?

We measure how contagious a disease is by the basic reproduction number (R0). This is the average number of people an initial case infects in a population with no immunity:

the original Wuhan strain has an R0 of 3.3

Delta has an R0 of 5.1

Omicron BA.1 has an R0 of 9.5

BA.2, has an R0 of about 13.3

pre-print publication suggest an R0 of 18.6 for BA.4/5.

This is similar to measles, which was until now was our most infectious viral disease.

Output

Description:

SH YOUR



THE MOST IMPORTANT MEASURE

FOR PREVENTING TRANSMISSION OF NFECTION



Take care: Cover coughs and sneezes. Keep hands clean.

Healthy habits can protect you and your children from getting germs or spreading germs at home, work and school. Simple actions can stop germs and prevent linesess.

Cower your mouth and nose. Use a tissue when you cough or snezze and drop it in the trists. If you don't have a tissue, cover your mouth and once as her your can.

Clean your hands often. Clean your hands every time you cough or sneeze. Hand washing stops germs. Alcohol-based gets and wipes also work well.

Remind your children to practice healthy habits, too. Germs that cause colds, coughs, flu and pneumonia can spread easily.

Healthy habits help reduce illnesses and sick days. Feel good about doing the right things to stay well.

HAND



Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2024

These recommendations must be read with the notes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars. To determine minimum intervals between doses, see the catch-up schedule (Table 215.7).

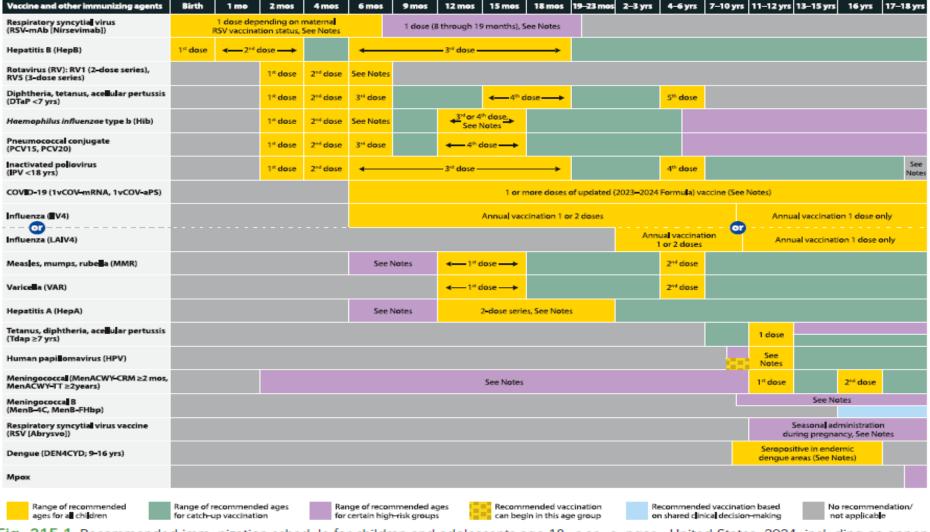


Fig. 215.1 Recommended immunization schedule for children and adolescents age 18 yr or younger—United States, 2024, including an appendix detailing contraindications and precautions for commonly used vaccines. These recommendations must be read with the notes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars. A new addendum section has been added to list any ACIP recommendations that occur by majority vote and are approved by CDC Director after the 2024 immunization schedules are approved and published. To determine minimum intervals between doses, see the Catch-Up Schedule (see Table 215.7). (Courtesy U.S. Centers for Disease Control and Prevention, Atlanta, 2023. https://www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-child-combined-schedule.pdf; Appendix is adapted from the Advisory Committee on Immunization Practices [ACIP] General Best Practice Guidelines for Immunization: Contraindication and Precautions, Table 4-1, available at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html and from the ACIP's Recommendations for the Prevention and Control of 2023-24 seasonal influenza with vaccines available at www.cdc.gov/mmwr/volumes/71/rr/rr7101a1.htm.)





واکسن آنفلوانزا نوترکیب ۴ ظرفیتی





Recommendations For People Aged 6 Months and Older

People Who Have Not Had Any Previous COVID-19 Vaccines (Not vaccinated)

People aged 6 months and older who are moderately or severely immunocompromised and not vaccinated should get **2 or 3 doses** of the same brand of <u>updated</u> COVID-19 vaccine. They also may be able to get <u>additional doses</u>. None of the recommended updated COVID-19 vaccines is preferred over another.

People Who Got Previous COVID-19 Vaccines

People aged 6 months and older who are moderately or severely immunocompromised and got **COVID-19 vaccines** before September 12, 2023, should get 1 or 2 doses of updated COVID-19 vaccine, depending on your age and the number of doses you got previously.

What You Need to Know

CDC recommends the 2023-2024 updated COVID-19 vaccines: Pfizer-BioNTech, Moderna or Novavax to protect against serious illness from COVID-19. Everyone aged 6 months and older who is moderately or severely immunocompromised nee ds at least 1 dose of a 2023-2024 updated COVID-19 vaccine.

- Talk to your healthcare provider about getting additional doses of updated 2023-2024 COVID-19 vaccine if you are moderately or severely immunocompromised.
 - If you are aged 65 years and older and received 1 dose of any updated 2023-2024 COVID-19 vaccine, you **should** receive 1 additional dose of an updated COVID-19 vaccine at least 2 months after your last recommended updated dose.

- If you are aged 6 months-64 years, you may receive 1 additional dose of an updated 2023-2024 COVID-19 vaccine at least 2 months after your last recommended updated dose.
- Talk to your
 healthcare provider
 about whether
 further additional
 doses are needed.

Table 228.3

Recommended Routine Vaccination Schedule for 15- or 20-Valent Pneumococcal Conjugate Vaccine (PCV15 or 20) Among Infants and Children Who Have Not Received Previous Doses of Conjugate Vaccines, by Age at First Dose—United States, 2010

AGE AT FIRST DOSE (MO)	PRIMARY PCV15 OR PCV20 SERIES*	PCV15 OR PCV20 BOOSTER DOSE†
2-6	3 doses	1 dose at age 12-15mo
7-11	2 doses	1 dose at age 12-15mo
12-23	2 doses	_
24-59 (healthy children)	1 dose	_
24-71 (children with certain chronic diseases or immunocompromising conditions [‡])	2 doses	_

^{*}The minimum interval between doses is 8wk except for children vaccinated at age <12mo, for whom the minimum interval between doses is 4wk. The minimum age for administration of the first dose is 6wk.

[†]Given at least 8 wk after the previous dose.

[‡]See Table 228.1. If two doses of PCV15 are used, then 1 dose of PPSV23 vaccine is given ≥8 weeks later.

AGE AND RISK GROUP	RECOMMENDATIONS
Children age <24 mo	 Use of either PCV15 or PCV20 is recommended for all children age 2–23 mo according to previous recommended PCV dosing and schedules. If only PCV13 is available when the child is scheduled to receive a PCV, PCV13 may be given as previously recommended. If a child started the PCV series with PCV13, the child may complete the series with PCV15 or PCV2 without giving additional doses; the PCV series does not need to be restarted. For children who have received all recommended dosing and schedules with PCV13 or PCV15, a supplemental dose of PCV20 is not indicated.
Healthy children age 24–59 mo with an incomplete PCV vaccination status*	 A single dose of either PCV15 or PCV20 is recommended. A supplemental dose of PCV15 or PCV20 is not indicated for healthy children who have received 4 doses of PCV13 or who completed another age-appropriate PCV13 schedule.
Children age 24–71 mo with any risk condition†	 Use either PCV15 or PCV20 according to previously recommended PCV dosing and schedules. If only PCV13 is available when the child is scheduled to receive a PCV, PCV13 may be given as previously recommended.
Children age 2–18 yr with any risk condition who completed a recommended PCV series before age 6 yr	 Completed series includes ≥1 dose of PCV20: No additional doses of any pneumococcal vaccine are indicated. This recommendation may be updated as additional data become available. Completed series using PCV13 or PCV15 (no PCV20): Either a single dose of PCV20 or PPSV23 using previously recommended dosing and schedules recommended to complete the recommended vaccine series.
Children age 6–18 yr with any risk condition with no previous PCV13, PCV15, or PCV20 vaccination	 For children age 6–18 yr with any risk condition who have not received any dose of PCV (PCV13, PCV15, or PCV20) a single dose of either PCV15 or PCV20 is recommended. If the child has previously received PCV7 and/or PPSV23, a single dose of either PCV15 or PCV20 is recommended ≥8 wk after the most recent dose of pneumococcal vaccination. PCV15 should be followed by a dose of PPSV23 if not previously given. PCV20 does not need to be followed by a dose of PPSV23.
Children who have received HSCT	 Children who received HSCT are recommended to receive three doses of PCV20, 4 wk apart starting 3-6 mo after HSCT. A fourth PCV20 dose is recommended ≥6 mo after the third PCV20 dose, or ≥12 mo after HSCT, whichever is later. HSCT recipients who have started their pneumococcal vaccine series with PCV13 or PCV15 may complete their 4-dose pneumococcal vaccine series with PCV20 without giving extra doses. If PCV20 is not available, three doses of PCV15, 4 wk apart starting 3-6 mo after HSCT, followed by dose of PPSV23≥12 mo after HSCT may be given. For patients with chronic graft-versus-host disease who are receiving PCV15, a fourth dose of PCV can be given in place of PPSV23 since these children are less likely to respond to PPSV23. A patient clinical team is best positioned to determine the appropriate timing of vaccination.

Risk conditions include: cerebrospinal fluid leak; chronic heart disease; chronic kidney disease (excluding maintenance dialysis and nephrotic syndrome, which are included in immunocompromising conditions); chronic liver disease; chronic lung disease (including moderate persistent or severe persistent asthma); cochlear implant; diabetes mellitus; immunocompromising conditions (on maintenance dialysis or with nephrotic syndrome; congenital or acquired asplenia or splenia dysfunction; congenital or acquired immunodeficiencies; diseases and conditions treated with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas, Hodgkin disease, and solid organ transplant; HIV infection; and sickle cell disease or other with these conditions who received PCV13 or PCV15 are also recommended to receive 23-valent pneumococcal polysaccharide vaccine.

PCV, pneumococcal conjugate vaccine; PCV13, 13-valent PCV; PCV15, 15-valent PCV; PCV20, 20-valent PCV; PPSV23, 23-valent pneumococcal polysaccharide vaccine; HSCT, hematopoietic stem cell transplant.

From Centers for Disease Control and Prevention. ACIP updates: Recommendations for use of 20-valent pneumococcal conjugate vaccine in children—United States, 2023. MMWR Morb Mortal Wkly Rep. 2023;72(39):1072. (Table 1).

برای درمان بیماری های تنفسی چه باید کرد؟

Upper respiratory illness from any viruse is generally <u>common cold</u> symptoms.

Signs and symptoms may include:

- ▶ fever
- runny nose
- cough
- sneezing
- sore throat

Other symptoms of HPIV illness may include:

- ear pain
- irritability
- decreased appetite

TREATMENT

- ▶ Most viral upper RTI infections go away on their own in a week or two
- No available treatment shortens the course or hastens the resolution of symptoms.

 Management is supportive and should include:
- hydration,
- Manage fever
- careful assessment of respiratory status,
- suction of the upper airway, as necessary.
- ▶ **Supplemental oxygen** is recommended only when oxyhemoglobin saturation persistently decreases **below 90%** in a previously healthy infant.

Supportive Care and Symptomatic Treatment

- ► Cool, humidified air has not been well studied but may loosen nasal secretion. The World Health Organization suggests that neither steam nor cool-mist therapy be used in treatment of a cold.
- Because of the lack of direct evidence for effectiveness and the potential for unwanted side effects, it is recommended that nonprescription cough and cold products not be used for infants and children younger than 4 years of age.
- A decision whether to use these medications in older children must consider the likelihood of clinical benefit compared with the potential adverse effects of these drugs.

Nasal Obstruction

- ► Saline nose drops (wash, irrigation) can improve nasal symptoms.
- ▶ Either topical or oral adrenergic agents may be used as nasal decongestants in older children and adults. Effective topical adrenergic agents such as phenylephrine are not recommended for use in children younger than 6 years old. The oral adrenergic agents are less effective.
- Pseudoephedrine may be more effective than phenylephrine as an oral agent to treat nasal congestion—its benefit seems to be greatest in the first day of treatment; after this it does not show much benefit over placebo.
- Aromatic vapors (such as menthol) for external rub may improve the perception of nasal patency but do not affect spirometry.

Rhinorrhea

- ► The first-generation antihistamines may reduce rhinorrhea by 25–30%. The effect of the antihistamines on rhinorrhea appears to be related to the anticholinergic rather than the antihistaminic properties of these drugs, and therefore the second-generation or nonsedating antihistamines have no effect on common cold symptoms.
- The major adverse effects associated with the use of the antihistamines are sedation or paradoxical hyperactivity.
- Rhinorrhea may also be treated with ipratropium bromide, atopical anticholinergic agent. This drug produces an effect comparable to the antihistamines but is not associated with sedation.
- The most common side effects of ipratropium are nasal irritation and bleeding.

- Zinc, given as oral lozenges to previously healthy patients, reduces the duration but not the severity of symptoms of a
 - common cold if begun within 24 hours of symptoms. The function of the HRV 3C protease, an essential enzyme for HRV replication, is inhibited by zinc, but there has been no evidence of an antiviral effect of zinc in vivo.
- ► The effect of ZINC on symptoms has been inconsistent Side effects are common and include decreased taste, bad taste, and nausea.

Cough

- Cough suppression is generally not necessary in patients with colds.
- Cough treatment with a first-generation antihistamine may be helpful.
- Cough lozenges or hard candy may be temporarily effective and are unlikely to be harmful in children for whom they do not pose risk of aspiration (older than age 6 years).
- ► Honey has a modest effect on relieving nocturnal cough and is unlikely to be harmful in children older than 1 year of age.
- In some patients, cough may be a result of **virus-induced reactive airways disease**. These patients can have cough that persists for days to weeks after the acute illness and might benefit from bronchodilator or other therapy.
- Dextromethorphan hydrobromide has no effect on cough from colds and has potential enhanced toxicity.
- Expectorants such as guaifenesin are not effective antitussive agents.

Ineffective Treatments

- Vitamin C, guaifenesin, and inhalation of warm, humidified air are no more effective than placebo for the treatment of cold symptoms.
- Echinacea is not effective as a common cold treatment.
- Antibiotics cause significant adverse effects when given for acute purulent rhinitis.

