

X. HIV/AIDS KURSU

HİBRİT

İLK ADIMDA HASTA YÖNETİMİ

27 Ocak 2024

Hilton İstanbul Kozyatağı



HIVÇG

KLİMİK DERNEĞİ
HIV/AIDS ÇALIŞMA GRUBU

HIV ve Aşılar

Dr. Süda TEKİN

Koç Üniversitesi Tıp Fakültesi

İnfeksiyon Hastalıkları ve Klinik Mikrobiyoloji Anabilim Dalı

27.01.2024



Neler Konuřulacak?



- ❖ HIV – Baęıřıklama
 - ✓ Genel
- ❖ İnaktif ařılar
- ❖ Canlı ařılar
- ❖ Seyahat durumunda özel ařılar
- ❖ Soru & Yanıt



Nereden geliyoruz?

Edward Jenner 1749-1823

“The Cow Pock – or – the Wonderful Effects of the New Inoculation”, 1802



The Cow-Pock — or — the Wonderful Effects of the New Inoculation! — See the Publications of the Anti-Vaccination Society.

■ Patient Care - Aralık 2021

40 Years of AIDS: A Timeline of the Epidemic

By Lisa Corvetti

January 1: Ward 86

AIDS clinic, at San Francisco General Hospital.



AIDS epidemisinin bitirilmesi için 2025 hedefleri

95%

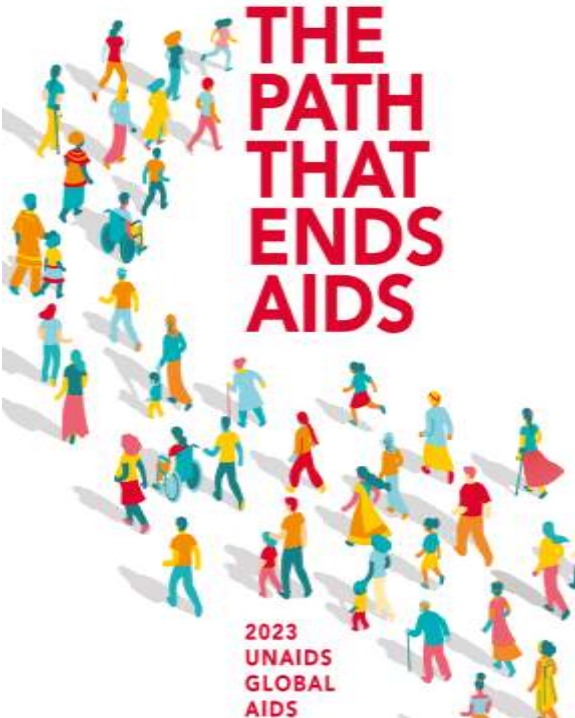
Of people within the sub-population who are living with HIV know their HIV status.

95%

Of people within the sub-population who are living with HIV who know their HIV status are *on antiretroviral therapy*.

95%

Of people within the sub-population who are on antiretroviral therapy have **suppressed viral loads**.



%95

Yaşam kalitesi;
Bağışıklama



“...vaccination rates in patients with immune-mediated diseases treated with immunosuppressants remain suboptimal, **primarily** due to **the absence of physician recommendations.**”

Assala M, et al. *Joint Bone Spine*. 2017; 84:365-6.
Hua C, et al. *Rheumatology (Oxford)*. 2015; 54:748-50.



Bağıışıklığı Baskılanmış Hastalarda Aşılarla Genel Yaklaşım

İnaktif aşılar

Birincil ve ikincil immün yetersizlik durumlarında **tüm inaktif aşılar (rekombinan, subünit, toksoid, polisakkarid, konjuge polisakkarid)** aksatılmadan, **güvenle yapılabilir.**

Canlı aşılar

Ağır immün baskılanması olanlarda ve bağışıklık sistemi ile ilgili canlı viral (**KKK, OPV, suçiçeği, HZV, oral Rota v, Sarı humma v**) ve canlı bakteriyel aşılar (**BCG, oral tifo**) kişi remisyon evresinde olmadıkça **yapılmamalıdır**

Table 2 Recommended Adult Immunization Schedule by Medical Condition or Other Indication, United States, 2023

Vaccine	Pregnancy	Immuno-compromised (excluding HIV infection)	HIV infection CD4 percentage and count		Asplenia, complement deficiencies	End-stage renal disease, or on hemodialysis	Heart or lung disease; alcoholism ^a	Chronic liver disease	Diabetes	Health care personnel ^b	Men who have sex with men
			<15% or <200 mm ³	≥15% and ≥200 mm ³							
COVID-19			See Notes								
IIV4 or RIV4 or LAIV4					1 dose annually					or	1 dose annually
Tdap or Td	1 dose Tdap each pregnancy				1 dose Tdap, then Td or Tdap booster every 10 years						
MMR	Contraindicated*	Contraindicated			1 or 2 doses depending on indication						
VAR	Contraindicated*	Contraindicated			2 doses						
RZV			2 doses at age ≥19 years		2 doses at age ≥50 years						
HPV	Not Recommended*		3 doses through age 26 years		2 or 3 doses through age 26 years depending on age at initial vaccination or condition						
Pneumococcal (PCV15, PCV20, PPSV23)					1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)						
HepA					2, 3, or 4 doses depending on vaccine						
HepB	3 doses (see notes)				2, 3, or 4 doses depending on vaccine or condition						
MenACWY			1 or 2 doses depending on indication		see notes for booster recommendations						
MenB	Precaution				2 or 3 doses depending on vaccine and indication, see notes for booster recommendations						
Hib		3 doses HSCT ^c recipients only			1 dose						

 Recommended vaccination for adults who meet age requirement, lack
 Recommended vaccination for adults with an additional risk factor or another
 Recommended vaccination based on shared clinical decision-making
 Precaution—vaccination might be indicated if benefit of protection
 Contraindicated or not recommended—vaccine should not be administered.
 No recommendation/Not applicable





CDC 'The Advisory Committee on Immunization Practices (ACIP)'

➤ **İnaktif aşılar HIV YK için normal popülasyonla benzer:**

- ✓ Hepatit A, Hepatit B
- ✓ DBT (Tdap, Td)
- ✓ HPV
- ✓ Pnömonokok aşısı
- ✓ İnfluenza aşısı
- ✓ RZV (Zona)
- ✓ Meningokok serogroup A, C, W, Y (MenACWY)
- ✓ Hib
- ✓ Men B

• Canlı aşılar kontrendike-> CD4 T <200 h/μl veya **kontROLSÜZ HIV**

- ✓ KKK
- ✓ Suçiçeği / VZV
- ✓ Canlı atenüe tifo (Ty21a) aşısı
- ✓ Sarı humma
- ✓ Oral Polio v
- ✓ Oral Rota v
- ✓ BCG



HIV ile YK için Bağışıklamada genel yaklaşım;

- **CD4 > 200 h/μL veya >%15, baskılanmış viremi ve immün rekonstitüsyon** elde ettikten sonra sağlıklı popülasyon için **ulusal kılavuzlara göre** aşılayın
- Yeterli immün düzelme elde edildiğinde **baskılanmamış** viremide gerçekleştirilen **aşuları tekrarlamayı** düşünün
- Aşı yanıtları daha düşük olabileceğinden **hızlı programlar kullanmayın**
- **Polisakkarid** temelli aşılardan kaçının
- **Canlı** aşılar için **CD4 T lenfosit sayısı** önemli
- Bu dönemde infeksiyon **riski/temas** varsa **immünoglobülin** kullanılabilir



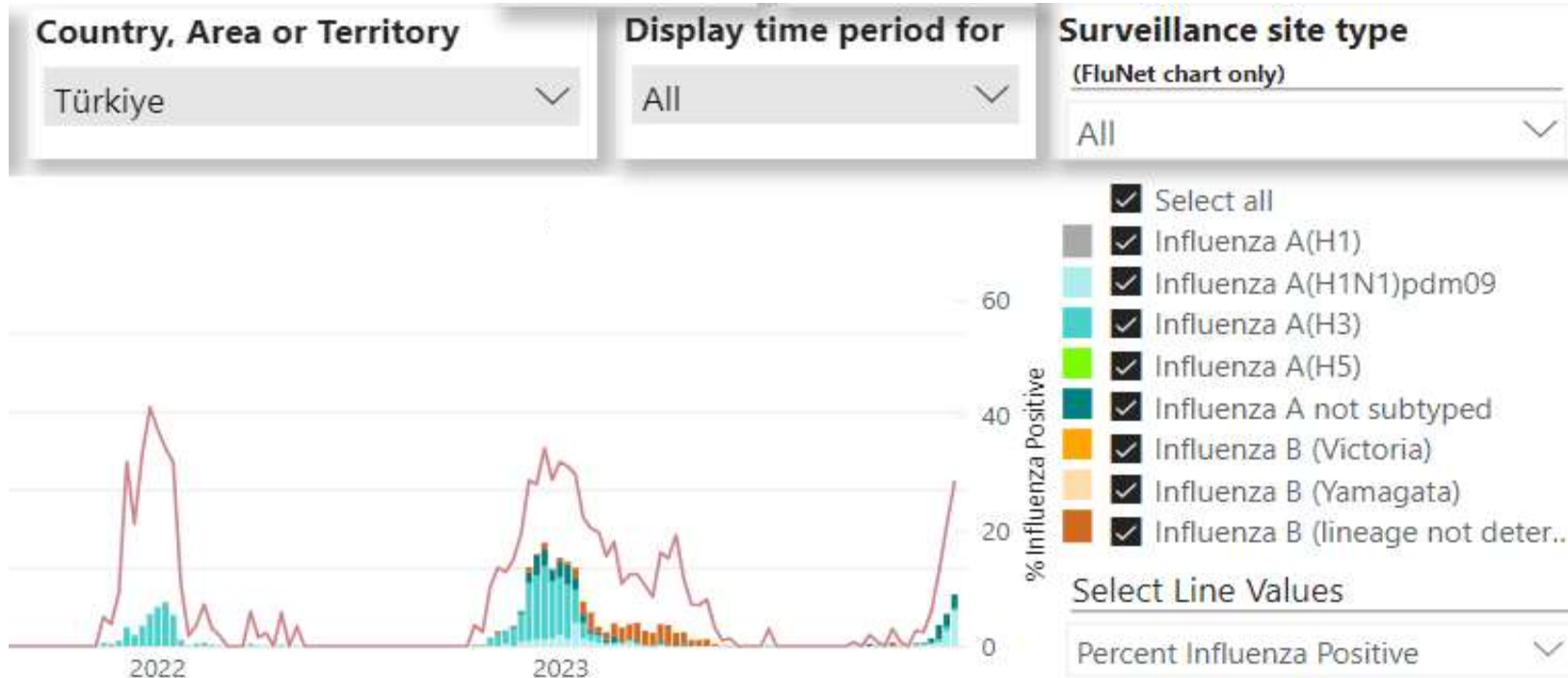
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**TÜRKİYE HIV/AIDS
KONTROL PROGRAMI
(2019-2024)**

HIV ve İnaktif Aşılar





Cell- or recombinant-based vaccines

- an A/Wisconsin/67/2022 (H1N1)pdm09-like virus; **(Updated)**
- an A/Darwin/6/2021 (H3N2)-like virus;
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus; and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

Infection	Vaccination rationale	Comment
Influenza Virus	Higher rate of pneumonia. Explicitly recommended in all persons with HIV	Yearly, use 4-valent vaccine if available

- **1977** yılından günümüze, influenza aşıları **A/H3N2, A/H1N1 ve B viruslarının** en güncel antijenik varyantlarını içerir
- Aşının antijenik içeriği **her yıl** yenilenir
- *Fluarix Quadrivalent* ≥6 ay 0.5 mL, im.

Eylül veya **Ekim** aylarında

Ancak aşılamanın influenza virusu **dolaşımında olduğu** sürece yapılabilir.

ACIP. *MMWR Recomm Rep.* 2023;72.



HPV Aşısı

HPV tipleri	6	11	16	18	31	33	45	52	58
AŞILAR									
2 değerli Cervarix®4			+	+					
4 değerli Gardasil®4	+	+	+	+					
9 değerli Gardasil®	+	+	+	+	+	+	+	+	+

Genital siğil

Serviks kanserlerinin %70'i

Serviks kanserlerinin %15'i

Yaş-Cinsiyet: 26 - K
Hekim Adı Soyadı: SÜDA TEKİN
Gönderen Birim: ENFEKSİYON HASTALIKLARI
TC Kimlik No: 46*****78

Klinik Bulgular: Smear.

Örnek Tipi:

Sıvı bazlı sitoloji otomatik cihaz ile yapılmıştır.

Alındığı Bölge:

Anal bölge

Örnek Yeterliliği:

Değerlendirme için yeterli

Sonuç:

NEGATİF/ İntraepitelyal lezyon ya da malignite görülmedi

SONUÇ:

YÜKSEK RİSKLİ HPV GENOTİPLENDİRMESİ:

POZİTİF - Yüksek riskli HPV Tip 16 ve 56/59/66 saptandı.

Yaş-Cinsiyet: 21 - E
Hekim Adı Soyadı: SÜDA TEKİN
Gönderen Birim: ENFEKSİYON HASTALIKLARI
TC Kimlik No: 47*****28

Klinik Bulgular: Anal kanal sürüntü - HPV?

Örnek Tipi:

Sıvı bazlı sitoloji otomatik cihaz ile yapılmıştır.

Alındığı Bölge:

Anal bölge

Örnek Yeterliliği:

Değerlendirme için yeterli

Sonuç:

DÜŞÜK DERECELİ SKUAMÖZ İNTRAEPİTELYAL LEZYON (LSIL)

Klinik Bulgular: Anal kanal sürüntü - HPV? HPV istemi.

SONUÇ:

YÜKSEK RİSKLİ HPV GENOTİPLENDİRMESİ:

POZİTİF - Yüksek riskli HPV Tip 31 ve 56/59/66 saptandı.

HPV Vaccination: Does It Have a Role in Preventing Penile Cancer and Other Preneoplastic Lesions?

Seminars in Oncology Nursing. 2022;38: 151284

Laura Elst, MD, Maarten Albersen, MD, PhD*

HPV is responsible for **50.8%** of **penile cancers** globally, and **90%** of **genital warts**.

Q HPV vaccine for use in males, with a potential efficacy of **90%** and **77.5%** to reduce **genital warts** and anal **intraepithelial neoplasia**, respectively.

Review > *Cancer Treat Rev*. 2022 Dec;111:102467. doi: 10.1016/j.ctrv.2022.102467.

Epub 2022 Oct 5.

HPV vaccination and HPV-related malignancies: impact, strategies and optimizations toward global immunization coverage

Gaia Giannone¹, Anna R Giuliano², Marco Bandini³, Laura Marandino⁴, Daniele Raggi⁴, Wayne Earle⁵, Benjamin Ayres⁶, Curtis A Pettaway⁷, Iain A McNeish⁸, Philippe E Spiess⁹, Andrea Necchi⁴

In conclusion, **HPV vaccination is safe and effective** and can lead to the first case of **cancer elimination** worldwide.

HPV Aşısı

Human Papilloma Virus (HPV)

Shared risk with HIV of contracting infection. Higher rate of cervical and anal cancer

Vaccinate with 3 doses between ages 9 and 45 (health insurance coverage differs by country according to age, sex, sexual orientation).

Use 9-valent vaccine if available.

Persons treated for high grade dysplasia could benefit from a full course vaccination for secondary prevention

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HIV/AIDS
KİMLİK VE SAĞLIK
EL KİTABI

9-45 Yaş arası



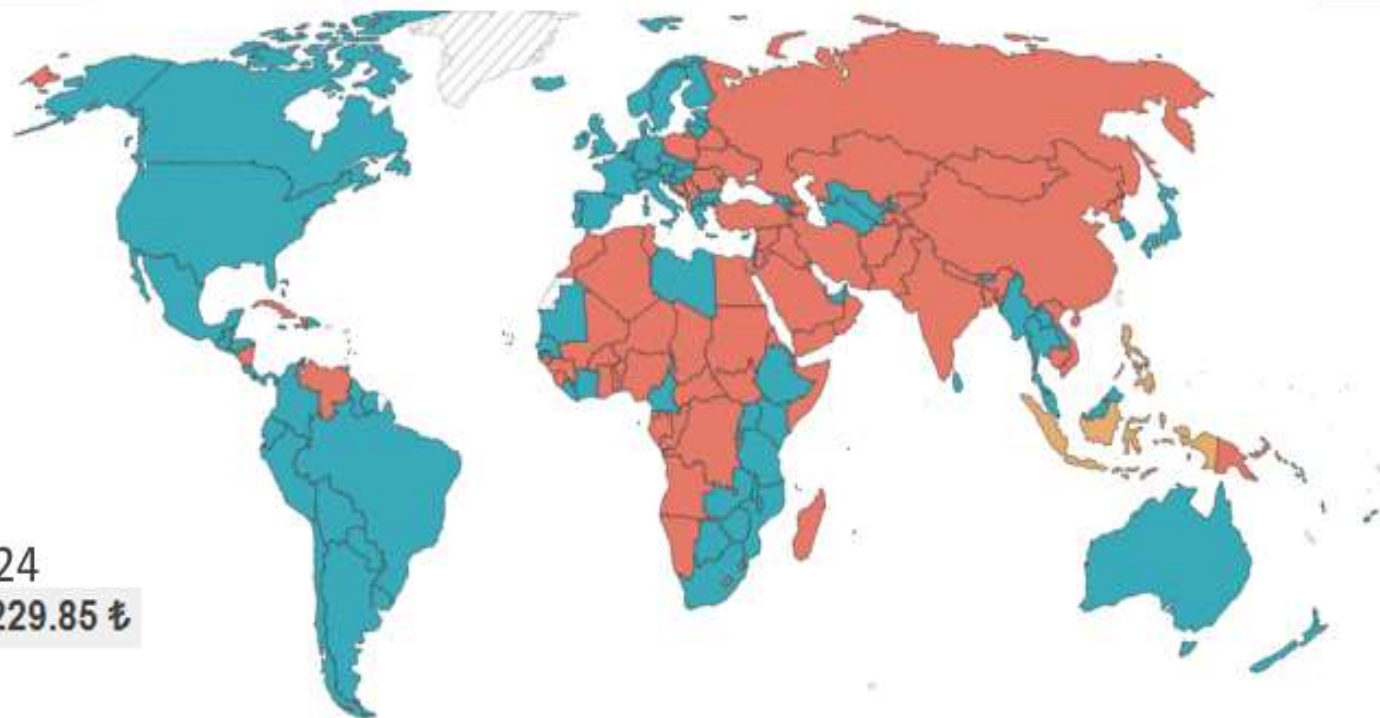
Which countries include human papillomavirus (HPV) vaccines in their vaccination schedules? 2021

This shows which countries provide and recommend HPV vaccines through routine services. People may still be able to receive the vaccine if it's not in the routine schedule – it might be optional or available commercially.

Table

Map

World



19 Ocak 2024

GARDASIL 9 IM | 3229.85 ₺

Entire country Not routinely administered Regions of the country No data

Hepatit B Aşısı

Hepatitis B Virus (HBV)	Shared risk with HIV of contracting infection. Untreated HIV accelerates progression of liver disease	Vaccinate if seronegative. Repeat doses until anti-HBs antibodies ≥ 10 IU/L / ≥ 100 IU/L according to national Guidelines. In order to reach ≥ 100 IU/L in non-responders repeat 3 doses if anti-HBs < 10 IU/L, 1 dose if anti-HBs < 100 IU, ⁽ⁱⁱ⁾ consider double dose (40 μ g) or use more immunogenic vaccines in particular with low CD4 count and high HIV VL. No benefit for intradermal application. See page 127
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- Seronegatifse aşılayın.
- **Anti-HBs ≥ 10 IU/L / ≥ 100 IU/L** olana kadar dozları tekrarlayın
(Ulusal Yönergelere göre yanıt vermeyenlerde)
- **Düşük CD4** sayısı ile **yüksek viral yük** çift doz (**40 μ g**) düşünün
- Ya da daha immünojenik aşılar kullanın
- İntradermal uygulamada yanıt yok.

Guidelines for the Prevention and Treatment of Opportunistic Infections in Adults and Adolescents with HIV

Opportunistic Infections	Indication	Preferred	Alternative
Hepatitis B virus (HBV) infection	<ul style="list-style-type: none"> • Patients without chronic HBV or without immunity to HBV (i.e., anti-HBs <10 international units/mL) (All) • Patients with isolated anti-HBc and negative HBV DNA (BII) • Early vaccination is recommended before CD4 count falls below 350 cells/μL (All). • However, in patients with low CD4 cell counts, vaccination should not be deferred until CD4 count reaches >350 cells/μL, because some patients with CD4 counts <200 cells/μL do respond to vaccination (All). 	<ul style="list-style-type: none"> • HBV vaccine IM (Engerix-B 20 μg/mL or Recombivax HB 10 μg/mL), 0, 1, and 6 months (All), or • HBV vaccine IM (Engerix-B 40 μg/mL or Recombivax HB 20 μg/mL), 0, 1, 2 and 6 months (BI), • Combined HAV and HBV vaccine (Twinrix[®]), 1 mL IM as a 3-dose (0, 1, and 6 months) or 4-dose series (days 0, 7, 21 to 30, and 12 months) (All) <p>Anti-HBs should be obtained 1 month after completion of the vaccine series. Patients with anti-HBs <10 IU/mL at 1 month are considered non-responders. (BIII).</p>	Some experts recommend vaccinating with 40- μ g doses of either HBV vaccine (CIII) .
	<p><i>Vaccine Non-Responders:</i></p> <ul style="list-style-type: none"> • Anti-HBs <10 international units/mL 1 month after vaccination series <p>For patients with low CD4 counts at time of first vaccine series, some experts might delay revaccination until after a sustained increase in CD4 count with ART (CIII).</p>	Re-vaccinate with a second vaccine series (BIII)	<ul style="list-style-type: none"> • HBV vaccine IM (Engerix-B 40 μg/mL or Recombivax HB 20 μg/mL), 0, 1, 2 and 6 months (BI),


Hepatit B Aşısı

Hepatitis B Virus (HBV)

- ✓ **Heplisav B®** may be used for primary immunization to reach **better responses**.
- ✓ Immunisation in **isolated anti-HBc IgG positive** persons (HBsAg negative, anti-HBc positive and anti-HBs negative profile) vaccination should be discussed on an **individual level**.

at doses until anti-HBs antibodies ≥ 10 IU/L Guidelines. In order to reach ≥ 100 IU/L s if anti-HBs < 10 IU/L, 1 dose if anti-HBs (40 μ g) or use more immunogenic 04 count and high HIV VL. No benefit for e 127

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What benefits of Heplisav B have been shown in studies? 

Results from three main studies involving over 13,000 participants showed that Heplisav B was more effective than Engerix B (another hepatitis B vaccine) at stimulating an immune response against the virus. Taken together the studies found that around 96% of people given Heplisav B developed enough antibodies to kill off the virus and protect against the disease compared with 80% of those given Engerix B.

People given Heplisav B also had higher levels of antibodies and sufficient levels developed earlier with Heplisav B than with Engerix B.

Hepatit A Aşısı

Hepatitis A Virus (HAV)

According to risk profile (travel, close contact with children, MSM, IVDU, active hepatitis B or C infection, chronic liver disease)

Vaccinate if seronegative. Consider checking antibody titres in persons at high risk. Weaker immune response expected with HAV/HBV co-vaccine. See page 127

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- **HAV** endemik olan ülkelere seyahat
- **ESE** ve **biseksüel** erkeklere
- HAV'a duyarlı **kronik karaciğer** hastalarına
- **ilaç bağımlılarına** önerilmekte

Preferred

Hepatitis A vaccine 1 mL IM x 2 doses at 0 and 6–12 months (**All**).

IgG antibody response should be assessed 1 month after vaccination; non-responders should be revaccinated when CD4 count >200 cells/ μ L (**BIII**).

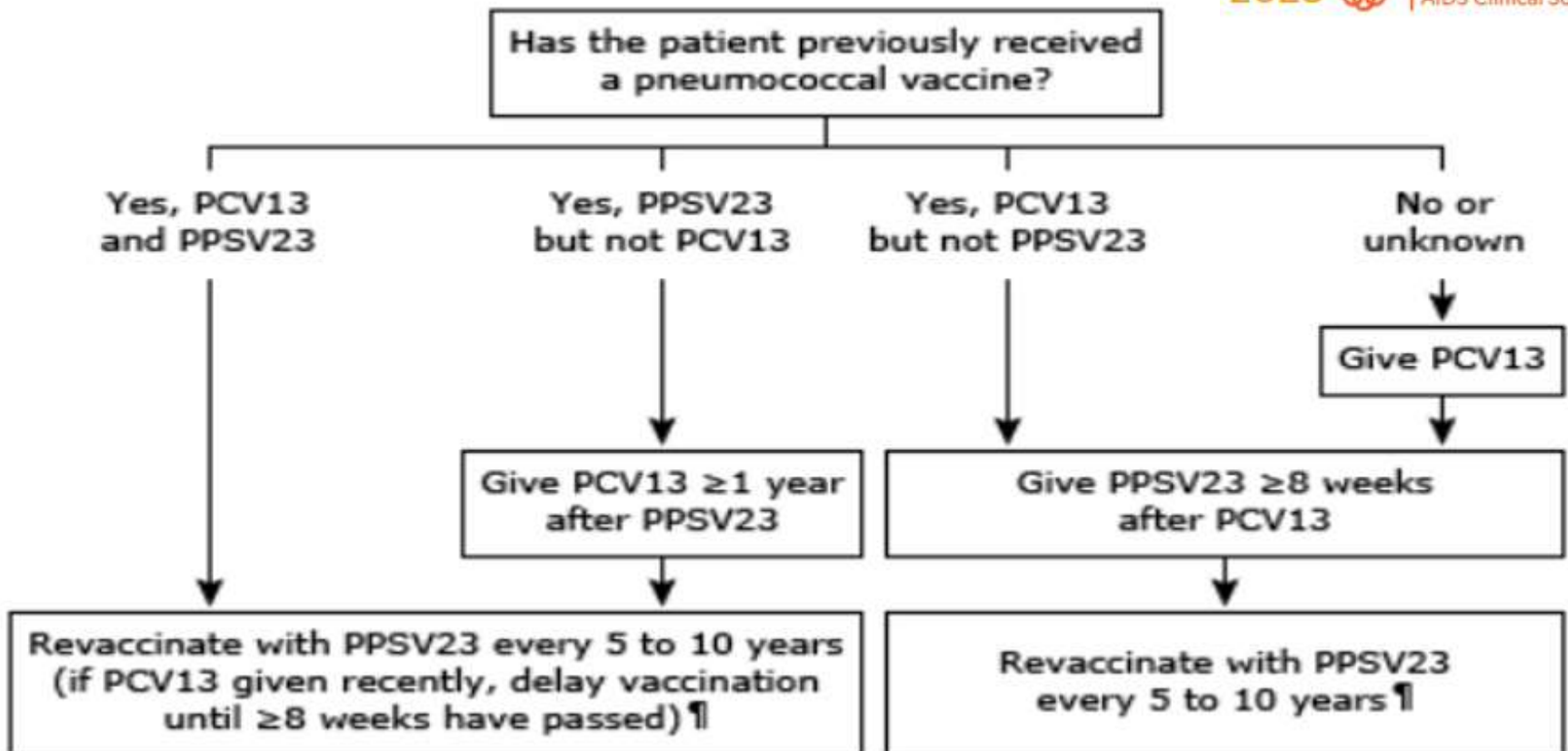
Pnömonok Aşısı

Streptococcus pneumoniae

Higher rate and severity of invasive disease. Vaccine explicitly recommended for all persons with HIV

One dose of a conjugated vaccine: PCV-13, PCV-15 or PCV-20a for all persons according to availability and national guidelines, also if pre-vaccinated with PPV-23 polysaccharide vaccine. For patients vaccinated with PCV-13 or PCV-15, one dose of PPV-23 at least 2 months after the conjugate vaccine may be considered in some national guidelines for all persons with HIV

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Pnömonok Aşısı

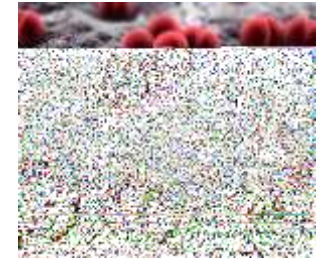
PPV23'ün Yeniden Aşılınması:

- İlk PPV dozunun üzerinden **≥5 yıl** geçmişse, **19-64** yaş arasındaki bireyler için bir doz PPV23 önerilir (**BII**)
- Önceki **PPV23**'lerinin üzerinden **≥5 yıl** geçtikten sonra, **≥65** yaşındaki bireyler için **son bir PPV23** dozu önerilir (**BII**)
- Tipik olarak, bir **yaşam boyunca 3 dozdan fazla PPV23** verilmez

Conjugate vaccines					Polysaccharide vaccine
PCV7 (Pevnar 7)	PCV10* (Synflorix)	PCV13 (Pevnar 13)	PCV15 (Vaxneuvance)	PCV20 (Pevnar 20)	PPSV23 (Pneumovax 23)

Table 1 Possible risk factors for invasive meningococcal disease and/or meningococcal pneumonia

- Age (older individuals)
- Smoking
- Close contact with persons with meningococcal infection
- People living in close quarters (e.g. military recruits, university students, Hajj)
- Chronic respiratory conditions (asthma, COPD)
- Coronary artery disease (or CABG)
- Diabetes mellitus
- Cirrhosis
- HIV infection
- Systemic lupus erythematosus
- Sickle cell anaemia (or asplenia)
- Deficiencies in mannose-binding lectin and other genetic abnormalities
- Preceding viral infection (especially influenza)
- Preceding bacterial infection (including *S. pneumoniae* and *H. influenzae*)
- Meningococcal serogroups Y, W-135, B
- Immunoglobulin and complement deficiencies
- Haematological malignancies (lymphoma, myeloma)



ECULIZUMAB

Ecilizumab is licensed for the treatment of paroxysmal nocturnal hemoglobinuria, atypical hemolytic uremic syndrome, and generalized myasthenia gravis. By blocking C5, ecilizumab inhibits meningococcal serum bactericidal activity (SBA), leaving patients at an approximately 2000-fold higher risk of meningococcal disease than the general population.¹ This increased risk includes invasive disease caused by unencapsulated (non-groupable, NG) strains,^{1,2} which rarely cause invasive disease in normal hosts.³

Meningokok Aşısı

<i>Neisseria meningitidis</i>	According to risk profile (travel, close contact with children, MSM)	Use conjugated [®] 4-valent vaccine (for serotypes A, C, W-135, Y; 2 doses 1-2 months apart) if available. Booster every five years if exposure continues. Polysaccharide vaccine no longer recommended. Vaccinate against Meningococcus serotype B according to national guidelines
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➤ Meningokok serogrup A, C, W, Y (MenACWY)

- Quadrivalan (**MenACWY**) aşı **8 hafta** ara ile **iki kez** önerilir (**AII**).
- Menveyo[®] (ACYW1 35) Türkiye'de mevcut.
- Daha önce aşılanmış ve **>7 yaş** ise her **5 yılda bir** aşı tekrar edilir (**BIII**)

➤ **Serogrup B (MenB, Bexero[®])** aşısı risk durumu (**Aspleni vb.**) ve ulusal rehberlere göre önerilir.

Eşdeğer İlaç Adı	Barkodu	İlaç Fiyatı
MENQUADEFI	8699625770027	1,974.76TL
MENVEO	8699504960259	6367.99 TL [8 Ocak 2024]
NIMENRIX	8681308964144	1,659.00TL

Tetanos- Difteri-Boğmaca Ařısı

- ✓ HIV'li kiři ≥ 11 yařta **ařılanmamıřsa** => **Tdap** tek doz ve ardından her **10 yılda bir tetanos ve difteri toksoid ařısı (Td)** veya **Tdap (All)**
- ✓ Hamile HIV YK için **her hamilelikte**, tercihen **27-36. hafta arasında** bir doz **Tdap** uygulayın (**All**).
- ✓ TDB için **birincil aři serisi almamıř** ergen ve yetiřkin HIV YB için: **Tdap'tan en az 4 hafta sonra** bir doz **Tdap /Td** ve ardından **bir doz Tdap/Td 6 ay ile 12 ay sonra** uygulayın (**0, 1, 6 veya 12**) (**All**).

People of all ages need WHOOPING COUGH VACCINES



DTaP for young children

- ✓ 2, 4, and 6 months
- ✓ 15 through 18 months
- ✓ 4 through 6 years

Tdap for preteens

- ✓ 11 through 12 years

Tdap for pregnant women

- ✓ During the 27-36th week of each pregnancy

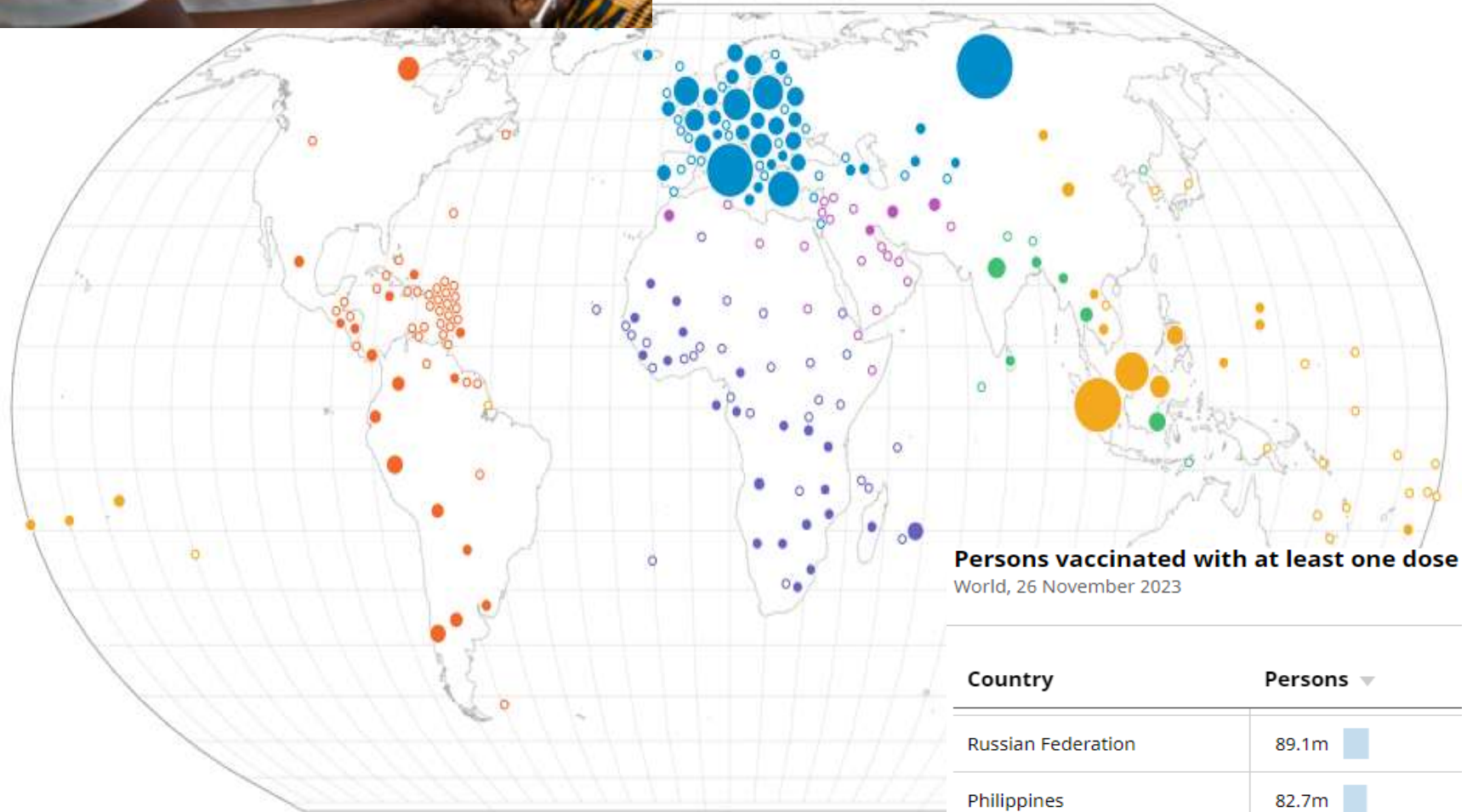
Tdap for adults

- ✓ Anytime for those who have never received it

www.cdc.gov/whoopingcough



COVID-19 vaccines



13.59bn

Total COVID-19 vaccine doses administered



Updated (2023-2024 Formula) COVID-19 Vaccine

Interim 2023-2024 COVID-19 Immunization Schedule
for Persons 6 Months of Age and Older



09/22/2023

COVID-19 vaccine (Moderna, Novavax, and Pfizer-BioNTech)

Table 1a. For people who are **NOT** moderately or severely immunocompromised*

2023-24 Moderna COVID-19 Vaccine			
Vaccine type: mRNA - Do NOT use any previously available Moderna COVID-19 vaccine products.			
Age	COVID-19 Vaccination History [†] (regardless of COVID-19 vaccine formula)	2023-24 Vaccine Schedule	Administer
12 years and older	Unvaccinated (0 doses)	Give 1 dose now	0.5 mL/50 µg
	Any number of previous doses COVID-19 vaccine, NOT including at least 1 dose of 2023–24 vaccine	Give 1 dose at least 8 weeks (2 months) after the previous dose	From single-dose vial with dark blue cap and blue label Intramuscular (IM) injection
	Any number of previous doses COVID-19 vaccine, INCLUDING at least 1 dose of 2023–24 vaccine	No further doses are indicated	

Persons with a **recent SARS-CoV-2 infection** may consider delaying vaccination by **3 months** from symptom onset or positive test

Updated (2023–2024 Formula) COVID-19 Vaccine

Interim 2023-2024 COVID-19 Immunization Schedule
for Persons 6 Months of Age and Older



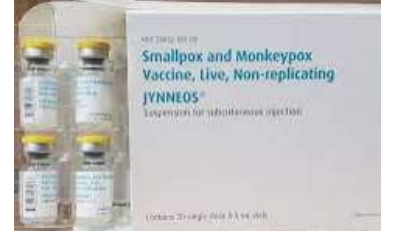
Table 2b. For people who **ARE** moderately or severely immunocompromised *Continued*

2023-24 Pfizer-BioNTech COVID-19 Vaccine - CONTINUED

Vaccine type: mRNA - Do **NOT** use any previously available Pfizer-BioNTech COVID-19 vaccine products.

Age	COVID-19 Vaccination History* (regardless of COVID-19 vaccine formula)	2023-24 Vaccine Schedule	Administer
12 years and older	Unvaccinated: 0 doses	Give a 3-dose initial series. Administer: <ul style="list-style-type: none"> • Dose 1 now • Dose 2 at least 3 weeks after Dose 1 • Dose 3 at least 4 weeks after Dose 2 	0.3 mL/30 µg From gray-capped vial with gray label or manufacturer-filled syringe with gray box on label Intramuscular (IM) injection
	1 previous dose of any Pfizer-BioNTech COVID-19 Vaccine (Dose 1) [†]	Complete series. Administer: <ul style="list-style-type: none"> • Dose 2 at least 3 weeks after Dose 1 • Dose 3 at least 4 weeks after Dose 2 	
	2 doses of any Pfizer-BioNTech COVID-19 Vaccine (Doses 1 and 2) [†]	Complete series. Administer: <ul style="list-style-type: none"> • Dose 3 at least 4 weeks after Dose 2 	
	3 or more doses of Pfizer-BioNTech COVID-19 Vaccine, NOT including at least 1 dose of 2023–24 COVID-19 vaccine [†]	Give 1 dose at least 8 weeks (2 months) after the last dose	
	3 or more doses of Pfizer-BioNTech COVID-19 Vaccine, INCLUDING at least 1 dose of 2023–24 COVID-19 vaccine [†]	People who are moderately or severely immunocompromised have the option to receive 1 additional dose at least 8 weeks (2 months) following the last recommended dose. Further additional dose(s) may be administered, informed by the clinical judgement of a healthcare provider and personal preference and circumstances. Any further additional doses should be administered at least 8 weeks (2 months) after the last COVID-19 vaccine dose.	

Mpox (eski ismi monkeypox) Aşısı



CDC aşılama endikasyonları;

- Mpox'lu birine maruz kalınması veya bundan şüphelenilmesi
- Son **2 hafta** içinde mpox tanısı konan bir **seks partneri** varlığı
- **Erkeklerle seks yapan eşcinsel, biseksüel** veya başka bir erkeksiniz

Son **6 ay içinde mpox virusunun** bulaştığı bir coğrafi bölgede **korunmasız cinsel ilişki**

- **HIV** veya bağışıklık sisteminin baskılanmasına neden olan başka nedenlere sahip olma
- Mpox'a maruz kalabileceğiniz ortamlarda (Laboratuvarda) **ortopoksviruslarla çalışıyor** olmak

JYNNEOS® aşısı, 4 hafta arayla uygulanan iki dozluk bir seri **0,5 mL**'lik subkütan FDA 9 Ağustos **2022**'de onayladı.

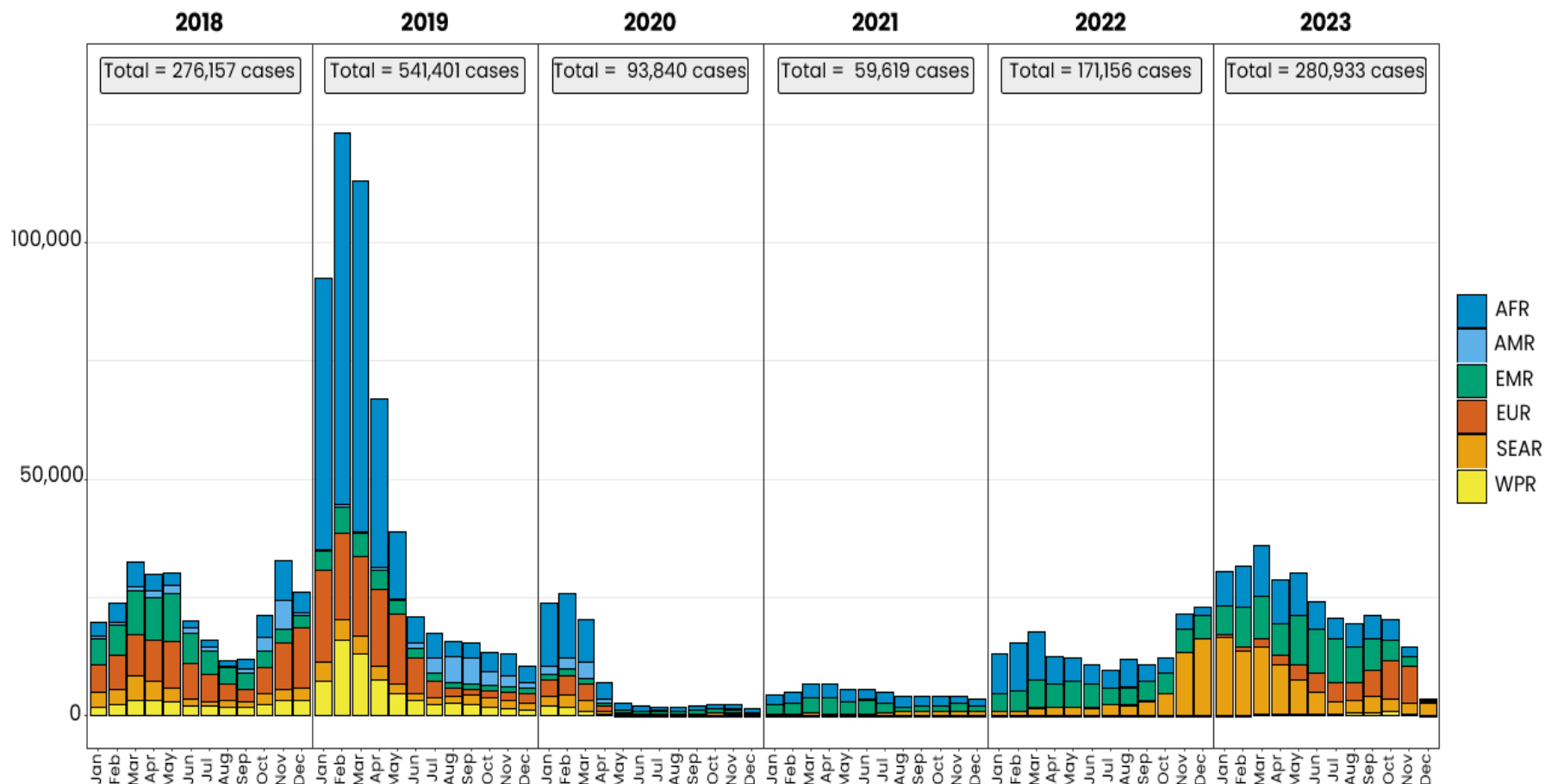


HIV ve Canlı Aşılar



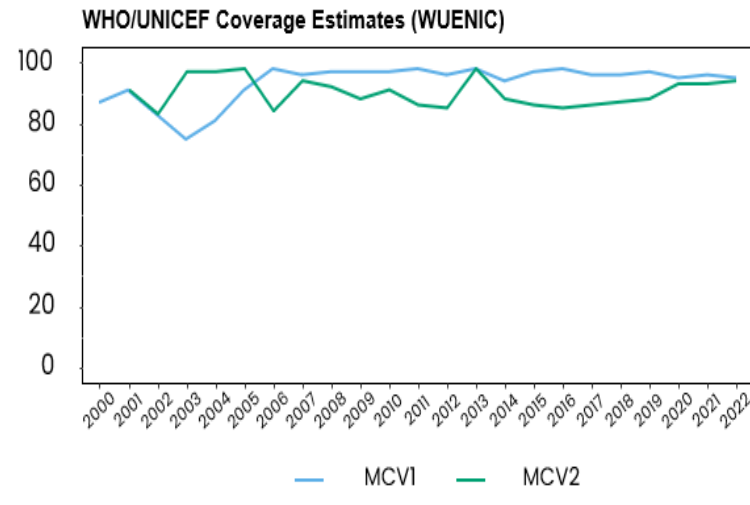
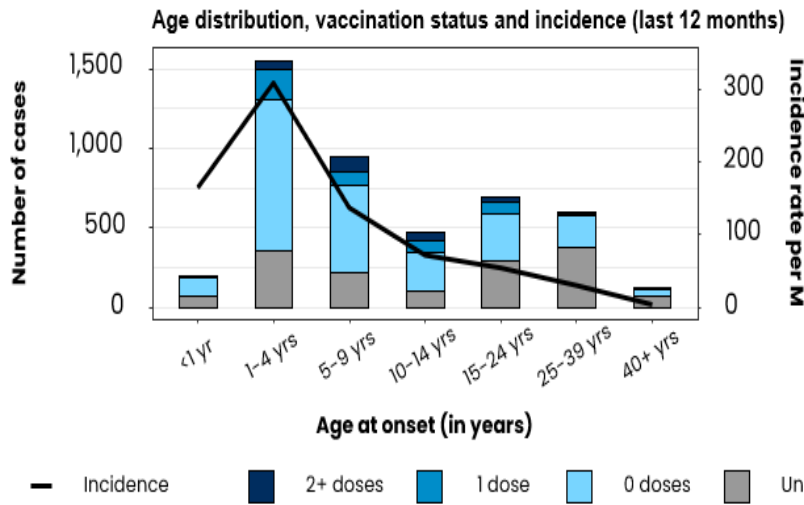
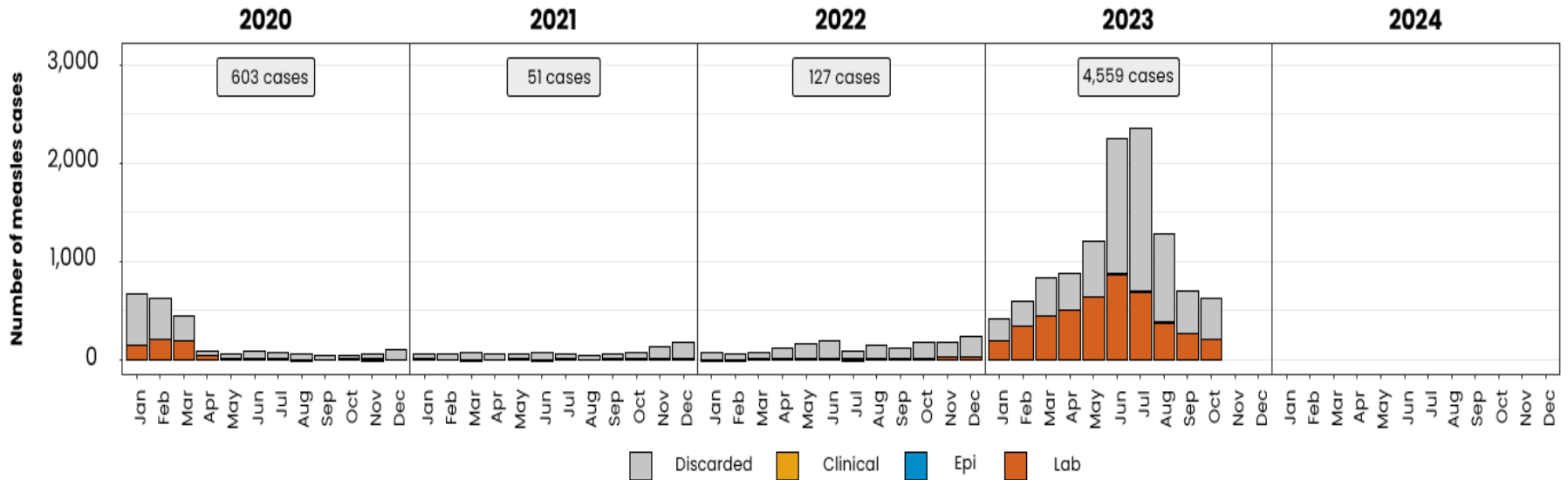
Kızamık

Measles case distribution by month and WHO Region (2018-2023)



Notes: Based on data received 2024-01 - Data Source: IVB Database - This is surveillance data, hence for the last month(s), the data may be incomplete.

Measles cases: Türkiye



Based on data received 2024-01 - Data Source: IVB Database. Main epi curve was built using case-based surveillance data. Age distribution curve was built using case-based surveillance data. Coverage data from WHO/UNICEF Estimates of National Immunization Coverage (WUENIC)

A 30-fold rise of measles cases in 2023 in the WHO European Region warrants urgent action

14 December 2023 | News release | Reading time: 2 min (675 words)

The WHO European Region is experiencing an alarming rise in measles cases. Over 30 000 measles cases were reported by 40 of the Region's 53 Member States between January and October 2023. Compared to 941 cases reported in all of 2022, this represents a more than 30-fold rise. The rise in cases has accelerated in recent months, and this trend is expected to continue if urgent measures are not taken across the Region to prevent further spread.

Where vaccinations are missed, outbreaks can follow – affecting both young and old

In **2023** measles has affected **all age groups**, with significant differences in the age distribution of cases among countries. Overall, 2 in 5 cases were among children 1 to 4 years of age, and **1 in 5 cases** were among adults **20 years and older**. From the beginning of the year through to October, **20 918 hospitalized** cases were reported, and **5 measles-related deaths** were reported by 2 countries.

<https://www.who.int/europe/news/item/14-12-2023-a-30-fold-rise-of-measles-cases-in-2023-in-the-who-european-region-warrants-urgent-action>



Kızamık, Kızamıkçık, Kabakulak Aşısı

- **CD4 sayısı ≥ 200 hücre/mm³** olan ve KKK baęıřıklığı kanıtı olmayan kiřilere en az 1 ay arayla **iki doz** (baęıřıklık kanıtı: hasta 1957'den önce doęmuř ve/veya KKK aldıęına dair belgelere sahip) (**AIII**)
- KKK **gebelikte kontraindike**
- Gebelik planlayan kiřilerde en az **4 hafta önce KKK** uygulanabilir
- Gebelerde doęum sonrasına ertelenmeli (2 doz KKK, CD4 ≥ 200 h/mm³ **AIII**)
- İki doz KKK ařısından sonra herhangi bir serolojik **baęıřıklık kanıtı yoksa, iki doz KKK serisini tekrarlayın**, özellikle virolojik baskılanmadıysa (**CIII**)
- **CD4 < 200 h/mm³** ise KKK ařısı **uygulanmaz** (**AIII**)

HIV ile yaşıyan Kişilerde Aşılama Önerileri

Herpes zoster Aşısı

- ✓ **≥18** yaşındaki HIV YK için, **0 ve 2. ayda iki doz** recombinant zoster aşısını (RZV: Shingrix[®]) uygulayın (AIII)
- ✓ ART altında virolojik baskılanana kadar ve **CD4 ≥ 200 h/mm³** bekleyin (CIII)
- ✓ RZV 50< yaş kişiler için FDA onaylı değildir.
- ✓ HIV YK için canlı zayıflatılmış zoster aşısı (ZVL, Zostavax[®]) aldıysa, **iki dozluk bir RZV** serisi ile yeniden aşılama yapılmalıdır.

Herpes zoster Aşısı

Adults **50 years** and **older** should get **two doses of Shingrix[®]**, separated by **2 to 6 months**.

Adults **19 years** and **older** who have or will have **weakened immune systems** because of disease or therapy should also get **two doses of Shingrix[®]**

You should get Shingrix even if in the past you:

- ✓ Had shingles
- ✓ Received Zostavax[®]
- ✓ Received varicella (chickenpox) vaccine
- ✓ There is no maximum age for getting Shingrix.

HIV ile yaşıyan Kişilerde Aşılama Önerileri

Vaccines associated with travel	Cholera	2 doses
	Japanese encephalitis	2 doses
	Tick-borne encephalitis	3-4 doses
	Tetanus	1 dose
	Diphtheria	1 dose
	Polio	1 dose
	Rabies	3 doses
	Typhoid	1 dose
	Yellow fever	1 dose

CD4 <200 h/mm³ ise veya hamilelik / emzirme döneminde önerilmez.

Sarihumma Aşısı

Yellow fever vaccine
and who are traveling
in [Africa](#) and [South A](#)



Yellow fever vaccine vials (Brazil)



o are **9 months old or older**
yellow fever virus



Vaccine description	
Target	Yellow fever
Vaccine type	Attenuated
Clinical data	
Trade names	YF-Vax, Stamaril
Other names	17D vaccine
AHFS/Drugs.com	Monograph ↗
MedlinePlus	a607030 ↗
Pregnancy category	AU: B2 ^[1]
Routes of administration	Subcutaneous injection



**Amaç: Hastalıkları
oluşmadan
Önlemek!!!!**



**Ebola virüsü kötü bir şey
değil, bulaşınca öldürüyor**

Ebola vaccines

*Ebola virus disease (EVD), is the most lethal, with case **fatality rates** of **70–90%** if left untreated.

There are **2 licensed Ebola vaccines**

➤ **Ervebo®** was licensed in **November 2019** by the European **Medicines Agency**

FDA licensed the vaccine in **December 2019**.

Since then, **Burundi, Central African Republic, the Democratic Republic of the Congo, Ghana, Guinea, Rwanda, Uganda** and **Zambia** have also approved the vaccine.

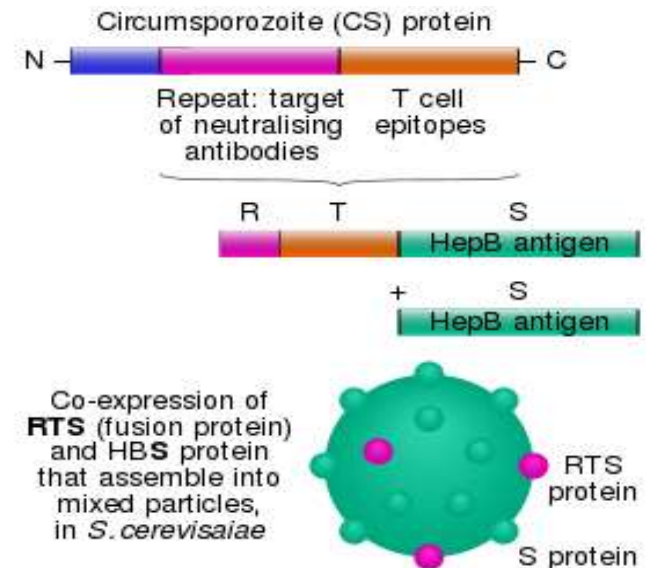
May 2020, the EMA new vaccine delivered in **2 doses** called **Zabdeno®** (Ad26.ZEBOV) and **Mvabea®** (MVA-BN-Filo) for individuals **1 year** and older. The vaccine is delivered in **2 doses**: Zabdeno is administered first and Mvabea is given approximately 8 weeks later as a second dose.

Malaria vaccines

- ✓ The first vaccine for malaria is **RTS,S** -> **Mosquirix®**.
- ✓ As of **April 2023**, the vaccine has been given to **1.5 million children** living in areas with moderate-to-high malaria transmission.
- ✓ It requires **at least three doses** in infants by **age 2**, and a fourth dose extends the protection for another **1–2 years**.
- ✓ The vaccine **reduces hospital admissions** from severe malaria by around **30%**

Vaccine description	
Target	Malaria
Vaccine type	Protein subunit
Clinical data	
Trade names	Mosquirix
Routes of administration	Intramuscular ^[1]
ATC code	J07XA01 (WHO ↗)
Legal status	
Legal status	EU: Rx-only ^[1] Approved in Ghana, Nigeria

Kenya and Malawi

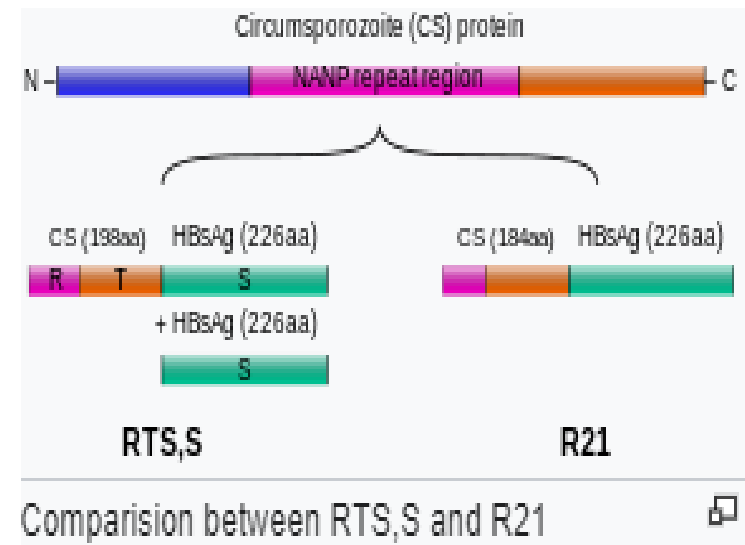


WHO. Malaria vaccine.

Weekly Epidemiological Record. 2022; 97 (9): 60-78.

Malaria vaccines

- ✓ The most effective malaria vaccine is **R21/Matrix-M**, with **77%** efficacy
- ✓ FDA approved the use of the R21 vaccine in **April 2023**, for use in children aged between **five months to three years old**.



Similarity of R21 and RTS,S vaccines: The two WHO-recommended vaccines, R21 and RTS,S, have not been tested in a head-to-head trial. There is **no evidence to date showing one vaccine performs better than the other**.



Screened cup of malaria-infected mosquitoes which will infect a volunteer in a clinical trial

WHO. Malaria vaccine.
Weekly Epidemiological Record. 2022; 97 (9): 60-78.

Rabies		For PLWH with CD4 count < 200 cells/ μ L or unsuppressed viremia consider pre-exposure vaccination with 3 doses (0, 7, 28 days) and titre control 14 days later. In case of exposure: full post-exposure prophylaxis including rabies immunoglobulins (RIG). If pre-exposure rabies vaccination administered when CD4 > 200 cells/ μ L: Post-exposure prophylaxis as for immunocompetent (one dose day 0 and day 3, without RIG)
Kuduz aşısı		

Temas öncesi aşılama;

CD4 sayısı < 200 h/ μ L veya baskılanmamış viremi 3 doz (0, 7, 28 gün) ve 14 gün sonra titre kontrolü

Maruz kalma durumunda:

Tam profilaksi (5 doz aşılama) ve kuduz immünoglobulini (RIG)

Temas öncesi kuduz aşısı varsa CD4 > 200 h/ μ L ise 0-3. gün aşılama yeterli **Ig gerek yok**



HIV ve BCG Aşısı

TB'nin önlenmesinde etkili iki strateji:

- ✓ Doğumda **BCG aşısı**
- ✓ Akciğer TB vakalarının temaslılarında **latent TB** infeksiyonunun tedavisi

❖ Doğumda HIV ile infekte olan çocuklar BCG ile aşılandığında BCG ile aşılandığında '**disemine**' **BCG hastalığı** riski çok yüksektir.

❖ Ancak HIV ile infekte bireyler;

✓ **ART** alıyorsa,

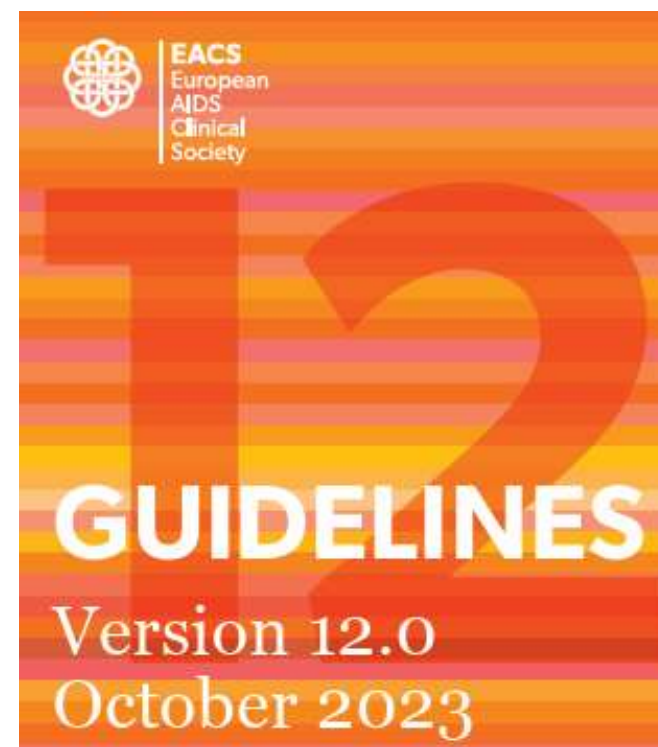
✓ **linik** olarak iyi

✓ **immünolojik** olarak stabil (<5 yaşındaki çocuklar için

CD4 % >%25 veya >5 yaşındaysa CD4 sayısı ≥ 200) BCG ile aşılanabilir.

Infection
Influenza Virus
Human Papilloma Virus (HPV)
Hepatitis B Virus (HBV)
Hepatitis A Virus (HAV)
<i>Neisseria meningitidis</i>
<i>Streptococcus pneumoniae</i>
Varicella Zoster Virus (VZV)
Yellow Fever Virus
Rabies

Infection
Severe Acute Respiratory Syndrome 2 (SARS-CoV-2)
Mpox, See Management of Mpox in persons with HIV



HIV İle Yaşayanlarda Kaliteli Yaşam için Öneriler

- ✓ **Tütün** ve ürünlerinden uzak durun
- ✓ **Alkol** alımını sınırlayın
- ✓ **Bağışıklama uygulamaları**
- ✓ **KHB** ve **KHC** tedavisi
- ✓ Dengeli **beslenme**
- ✓ Düzenli **aktiviteler** / spor
- ✓ **HIV erken tanı** ve **ART** devamı
- ✓ Düzenli kanser **taramaları**



Hasta özellikle reddetmediği sürece;

COVID-19, HBV, HAV, pnömokok, meningokok, Td ve influenza aşılarını **Sağlık Bakanlığı karşılıyor.**

HPV, zona, suçiçeği, PPSV23 ve Tdap aşılarını hastaya öner (ücretli).



Sonuç olarak;



- HIV ile infekte kişilerin aşılınması birkaç detay dışında genel yetişkin popülasyona benzer
- **CD4 T < 200 h/mm³** ise canlı aşı uygulanmaz, inaktive aşıları yarar-zarar hesabına (risk faktörü yok ise bekle) göre yap.
- **CD4 T > 350 h/mm³** ise aşılaraya yanıt daha iyi
- **İki canlı aşı** aynı anda **yapılmaz**
- HBV, HAV, kızamık, su çiçeği gibi serumda antikor yanıtının test edildiği tüm aşılar için **serum antikor düzeyine** bakılmalı





Ramize Erer

Veri Sınıflandırma Tipi: Genel / General

