

HIV Infektion und AIDS

Update

Juni 2002

HIV und AIDS

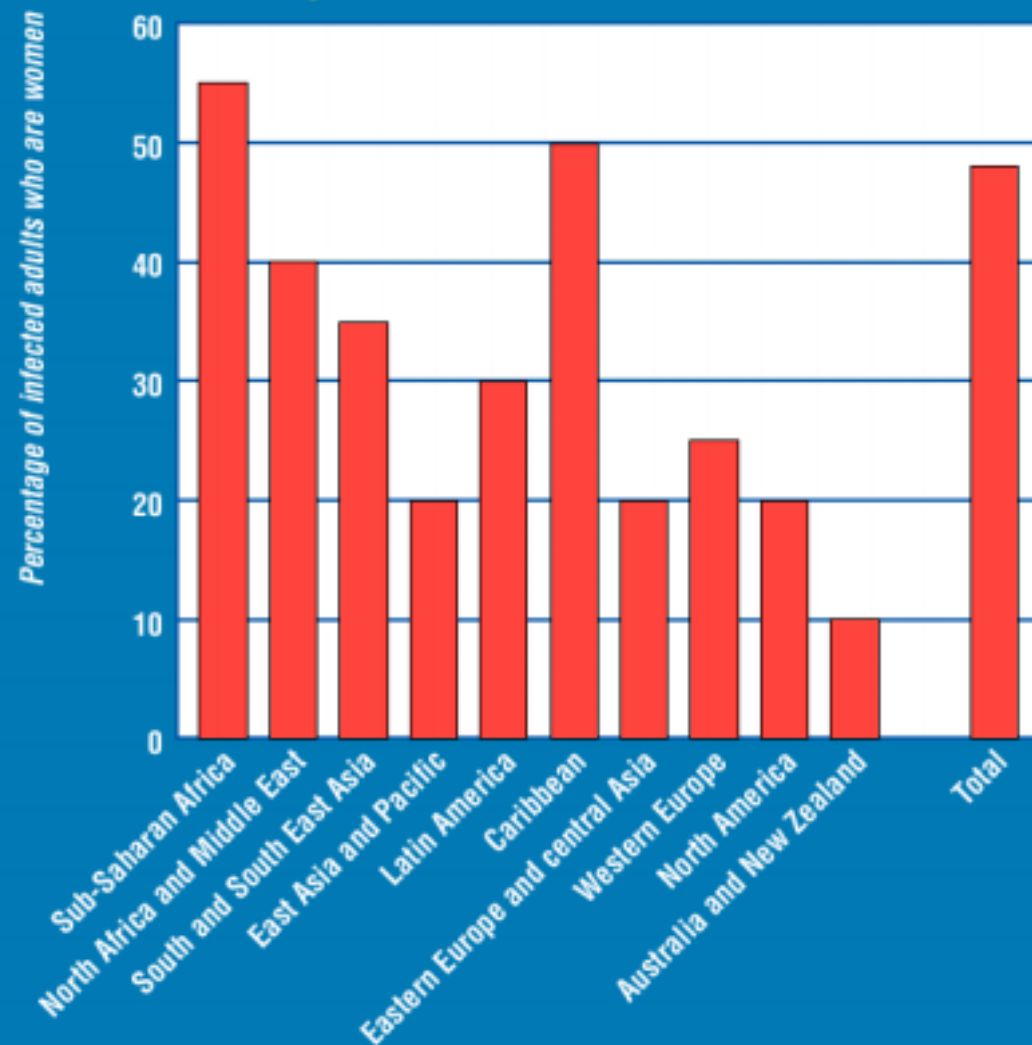
- **Epidemiologie**
- **Verlauf der HIV-Infektion**
- **Antivirale Therapie**
- **Post-Expositions-Prophylaxe**

AIDS now worldwide

Alex Vass *BMJ*

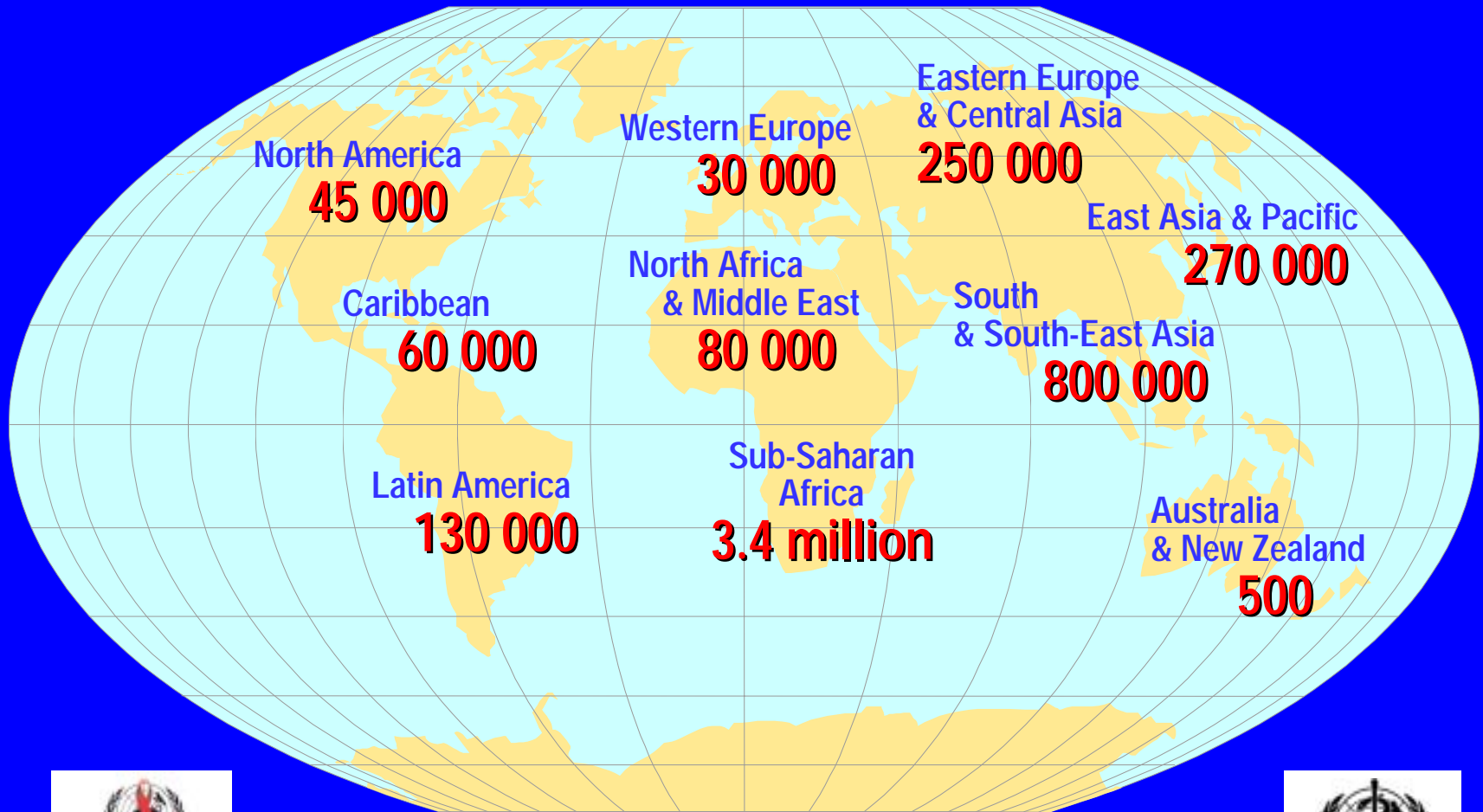
A joint report by the
World Health Organization

Percentage of HIV infected adults who are women, 2001



BMJ 2001; 323: 1271

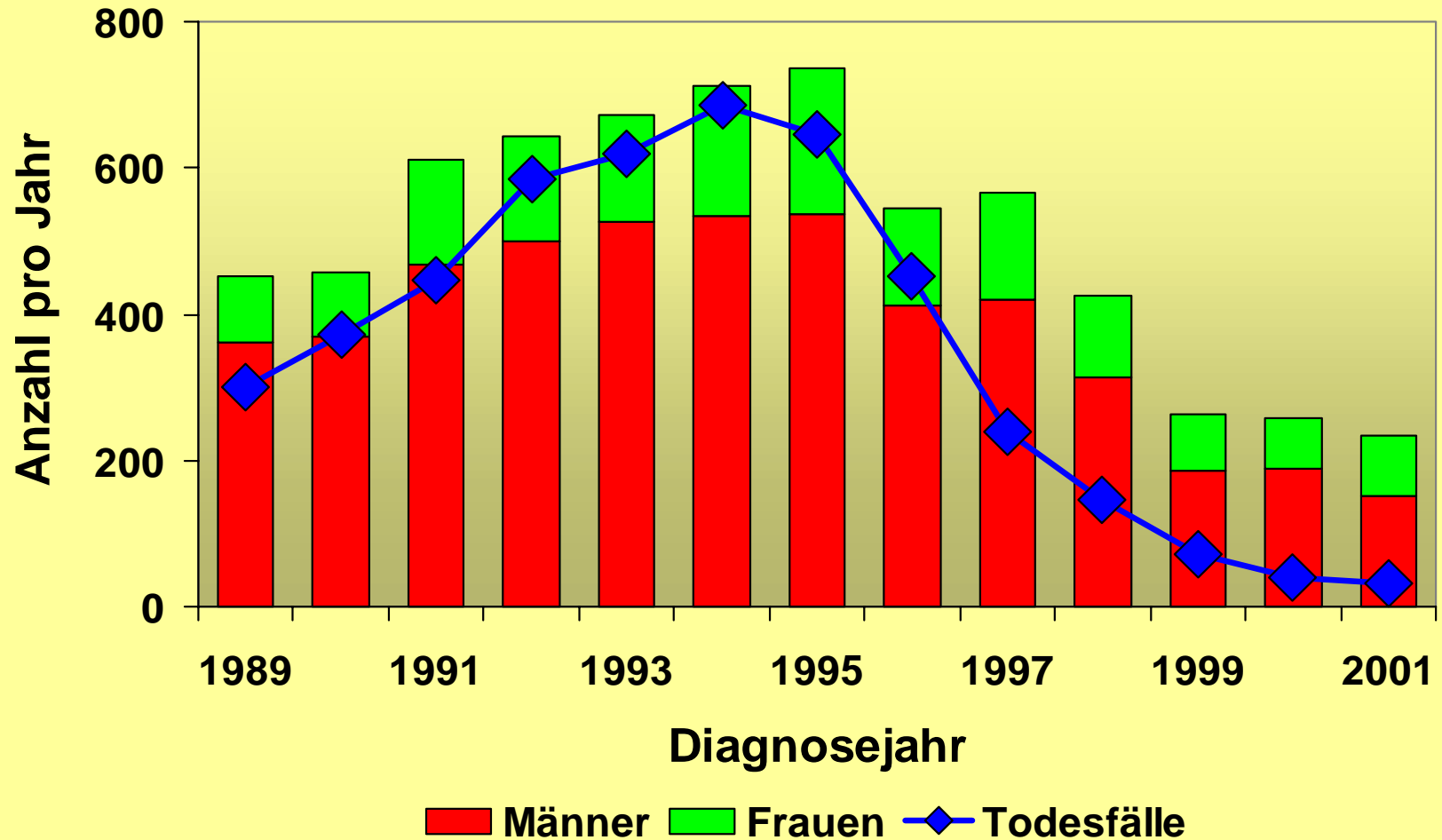
Neue HIV Infektionen 2001



Total: 5 million

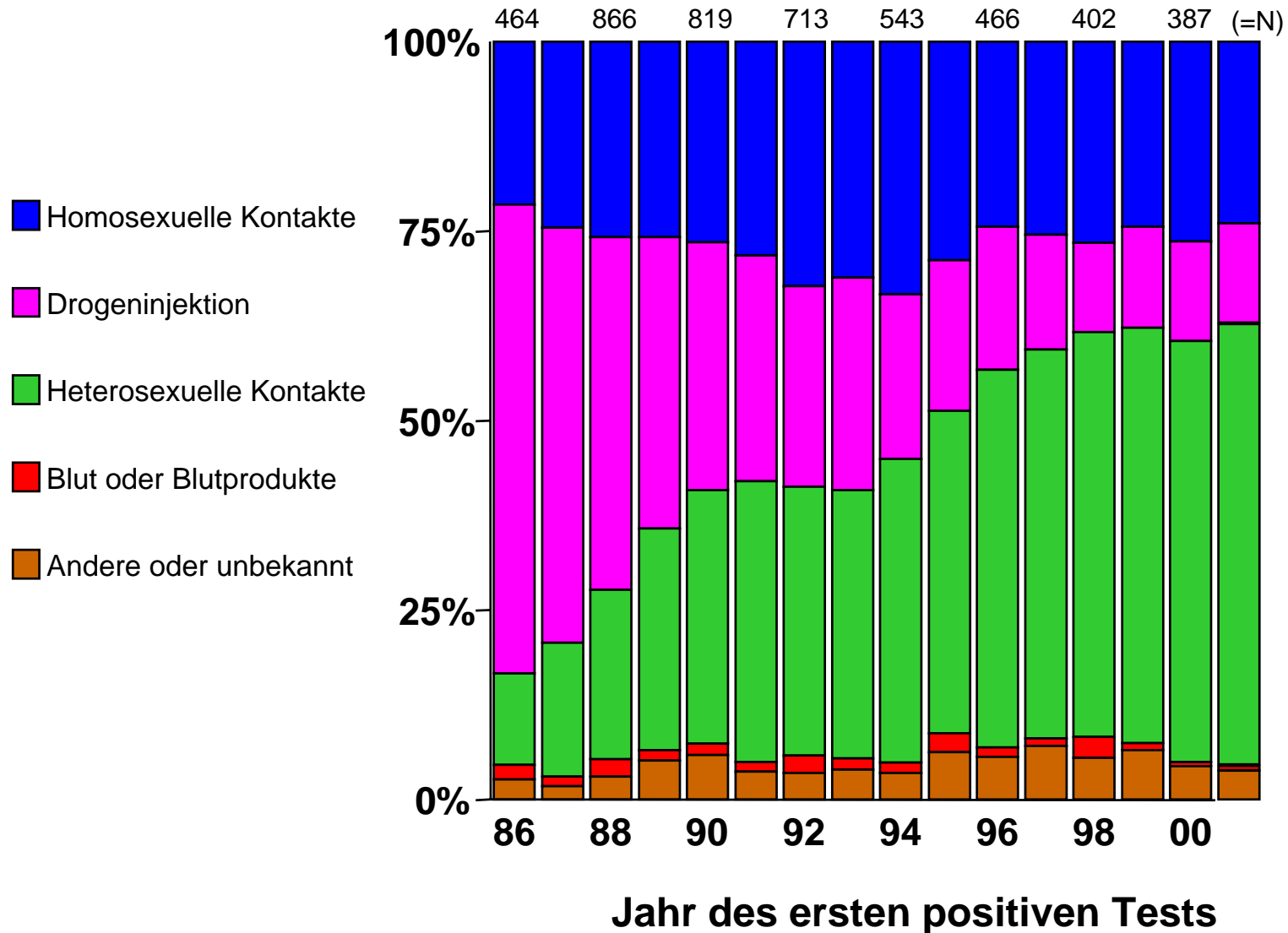


CH: AIDS Diagnosen / Todesfälle

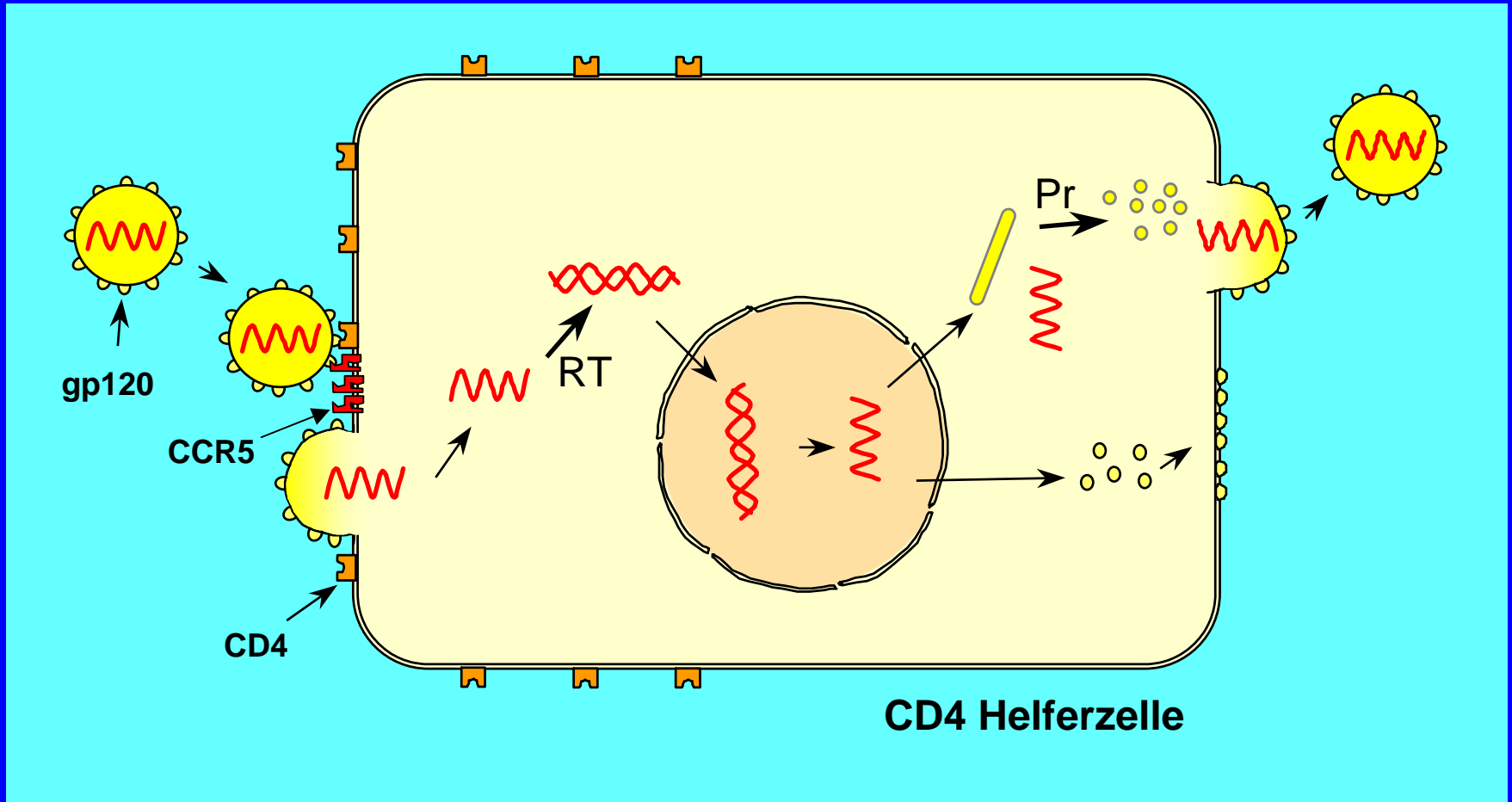


HIV in der Schweiz

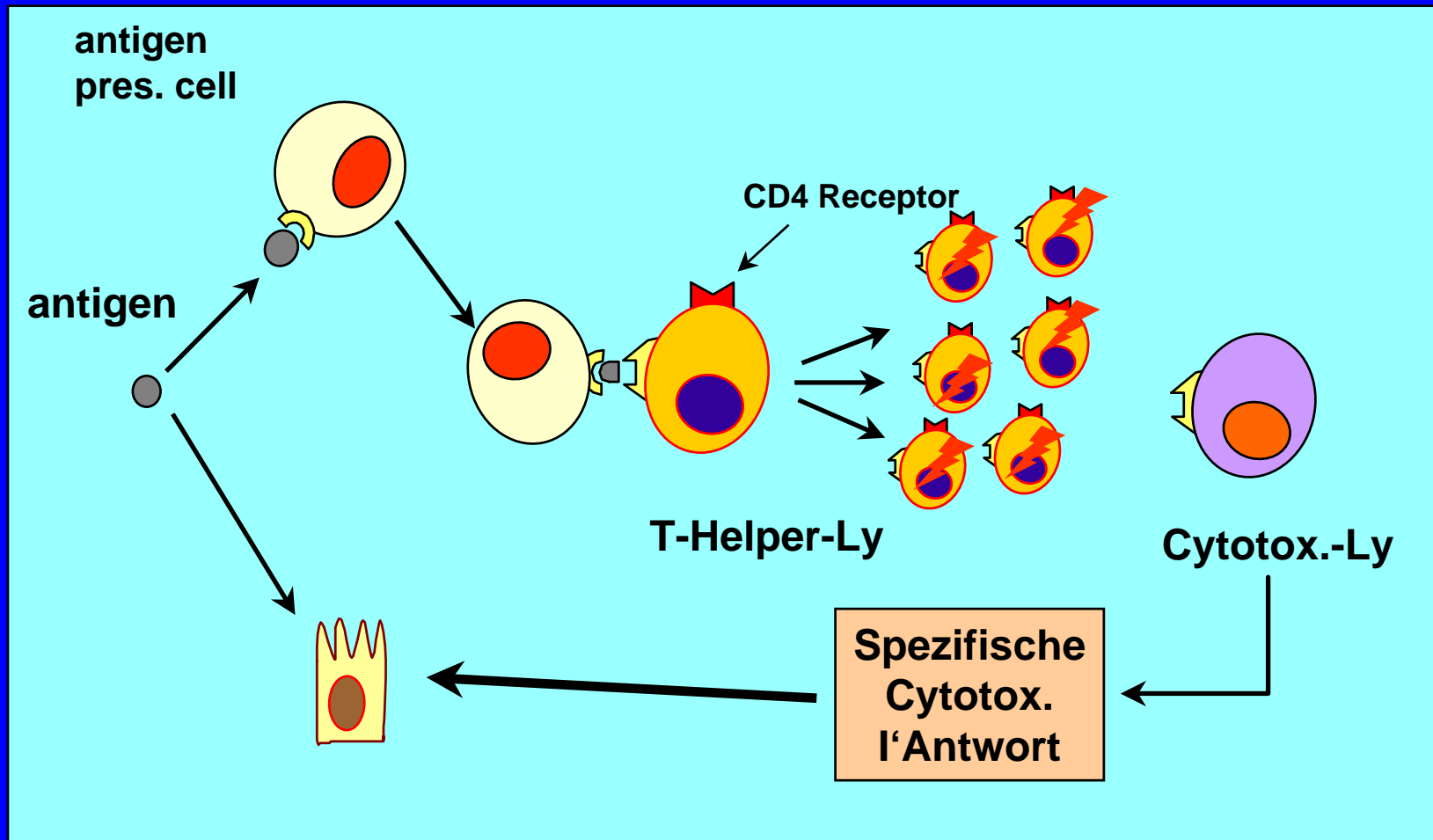
Anteile der Hauptansteckungswege
nach Jahr des ersten positiven Tests



Replikationszyklus von HIV



Die Rolle der CD4 T-helper Zellen

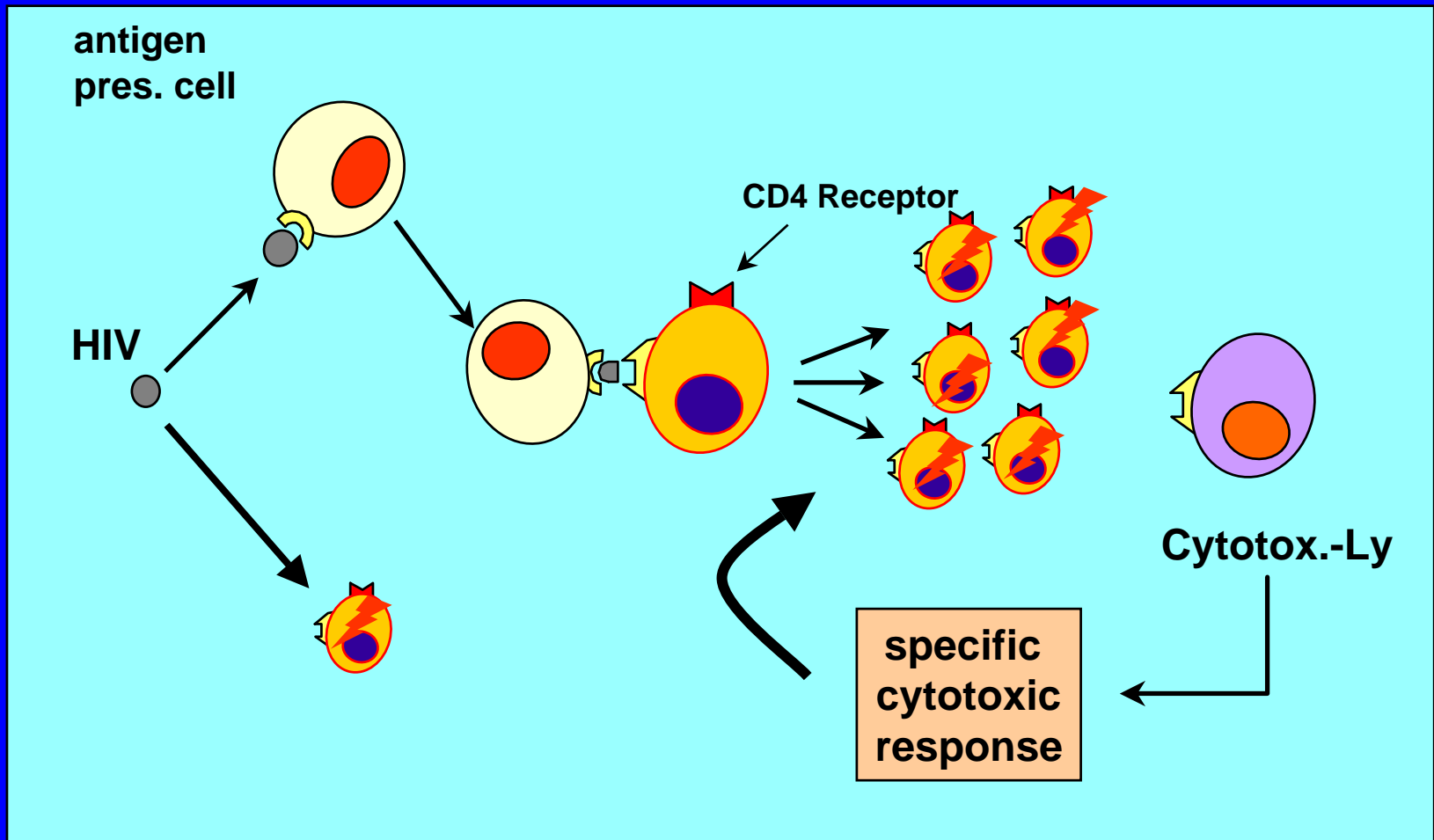


Akute HIV-(Primo-) Infektion

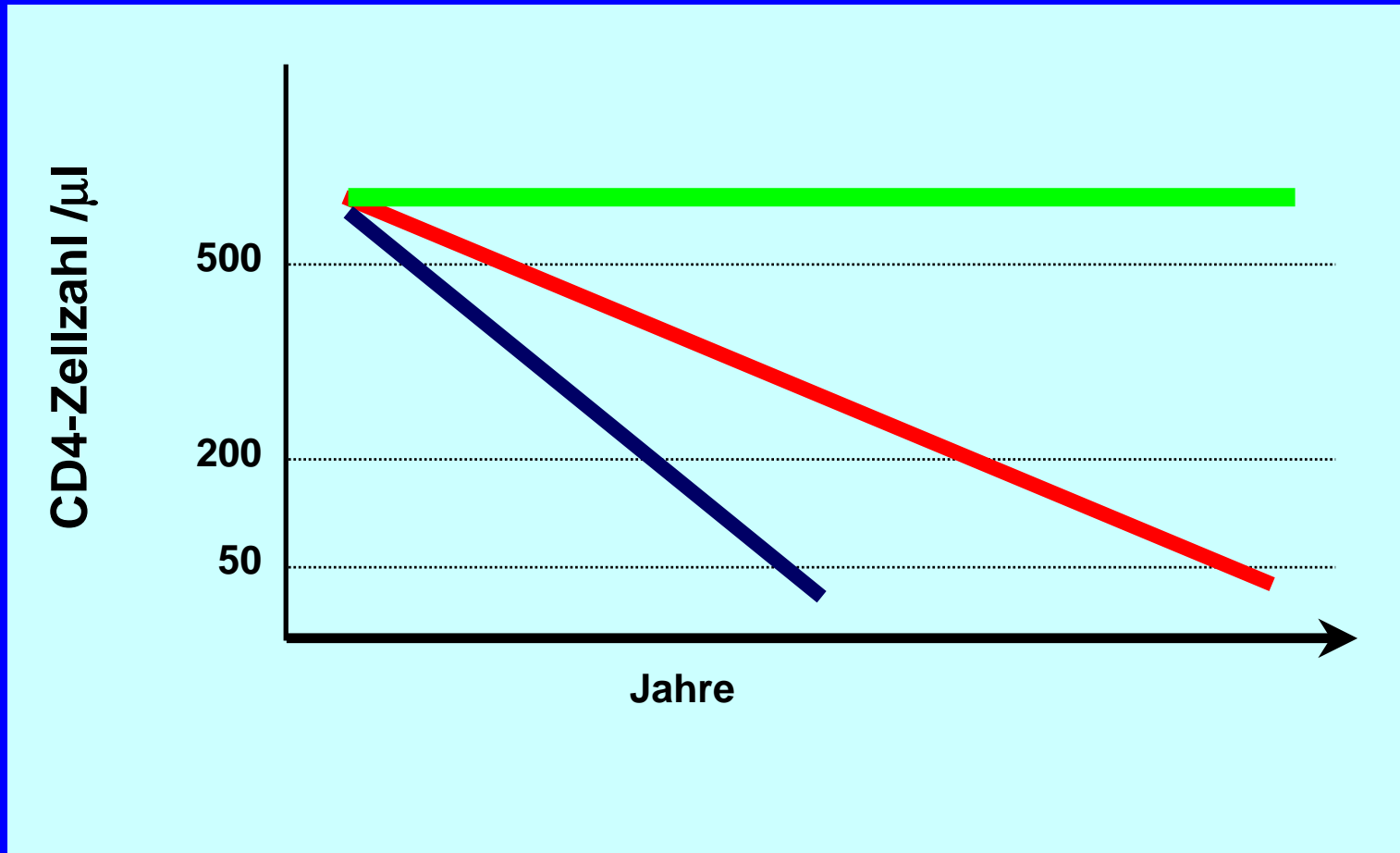


- 70%, innert 4 Wo
- Akutes virales Bild
- Exanthem!
- Dran denken !
- Hohe Infektiosität!
- Therapie-Indikation!

HIV eliminiert die eigene Abwehr

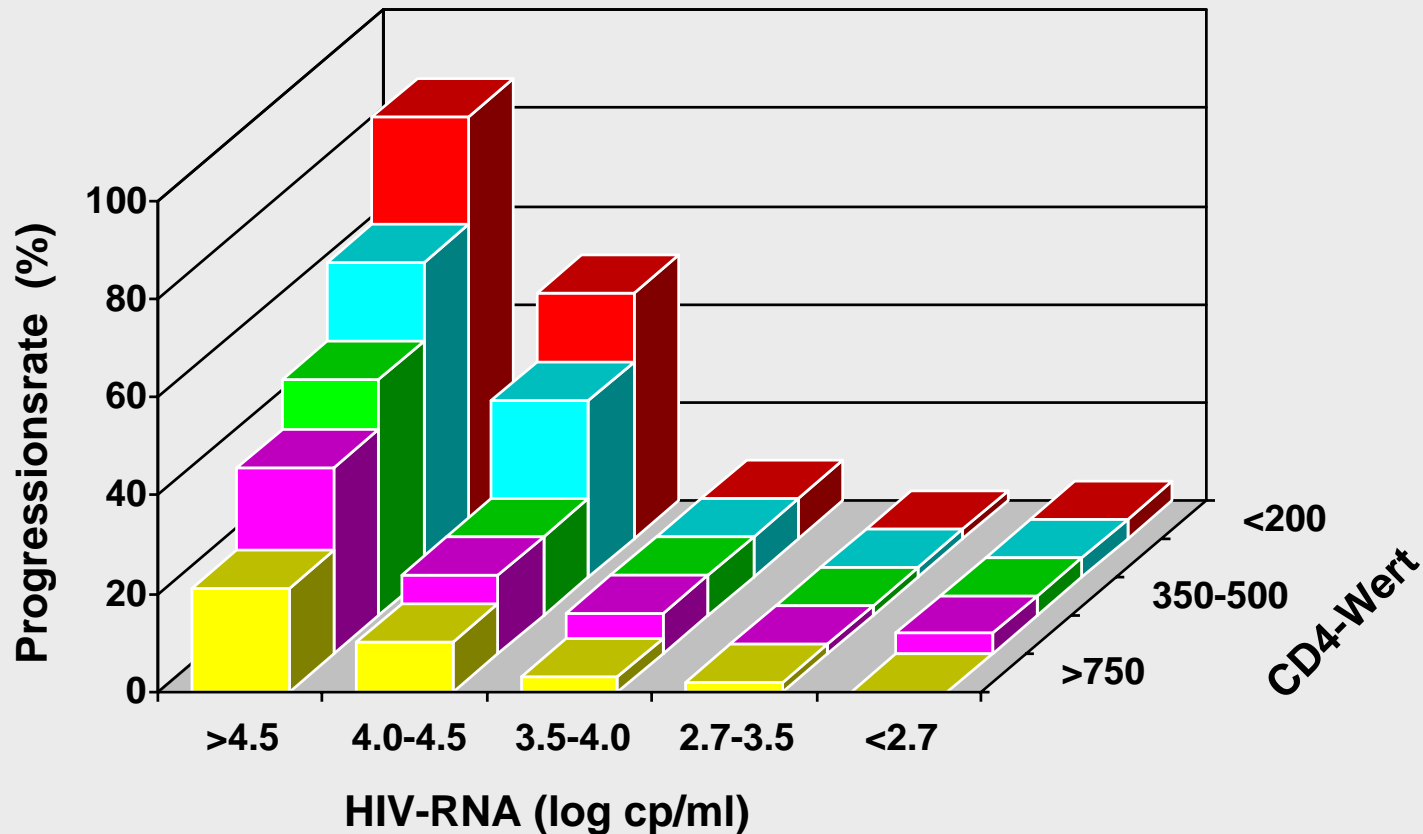


Der Verlauf der Krankheit



CD4 / HIV-RNA und Prognose

Wahrscheinlichkeit einer AIDS-Erkrankung (3 Jahre)



Klinischer Verlauf

Mukokutane Abwehrrschwäche



Klinischer Verlauf

Mukokutane Abwehrschwäche



Klinischer Verlauf

Mukokutane Abwehrschwäche



Klinischer Verlauf

Systemischer Immundefekt

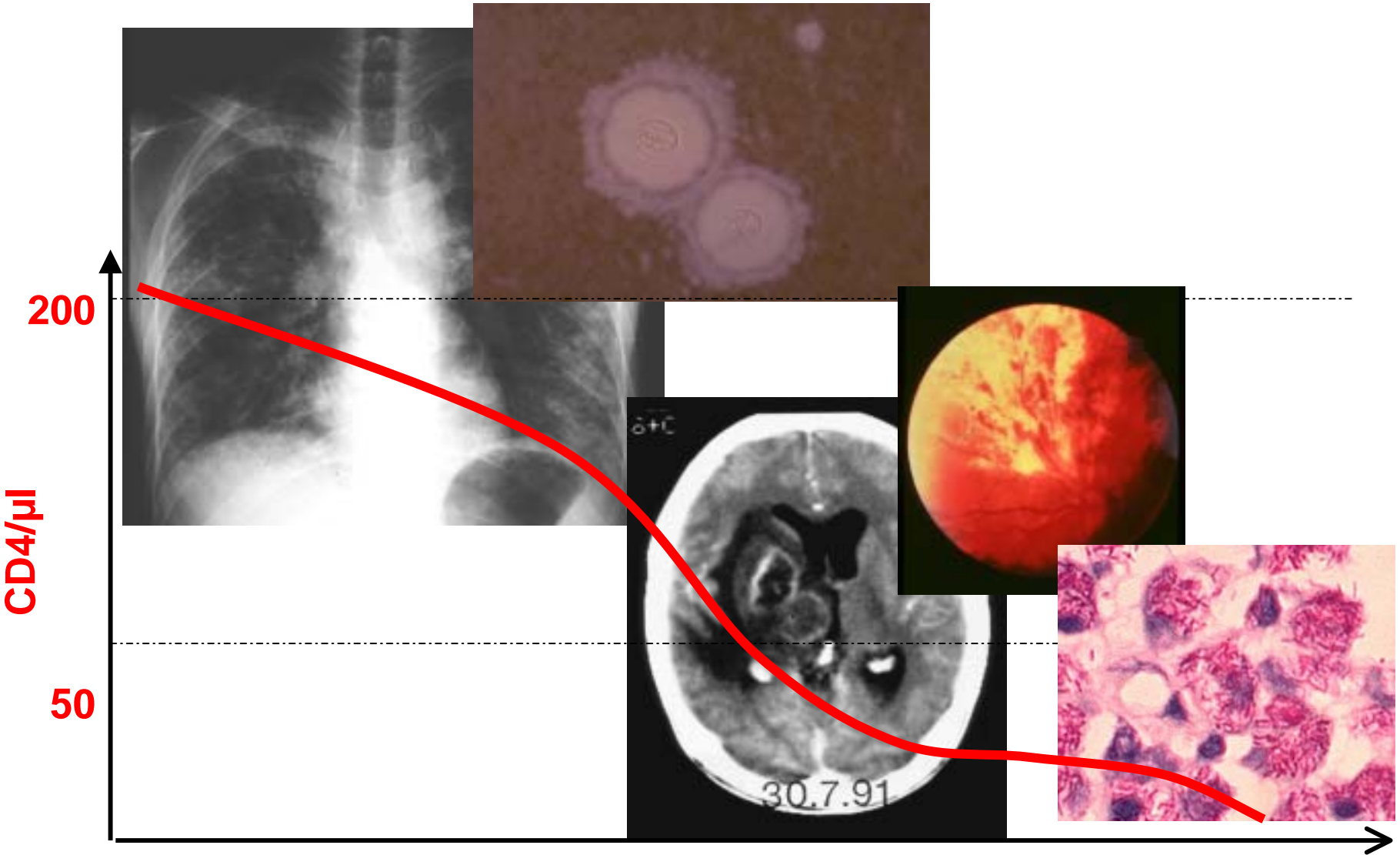


Klinischer Verlauf

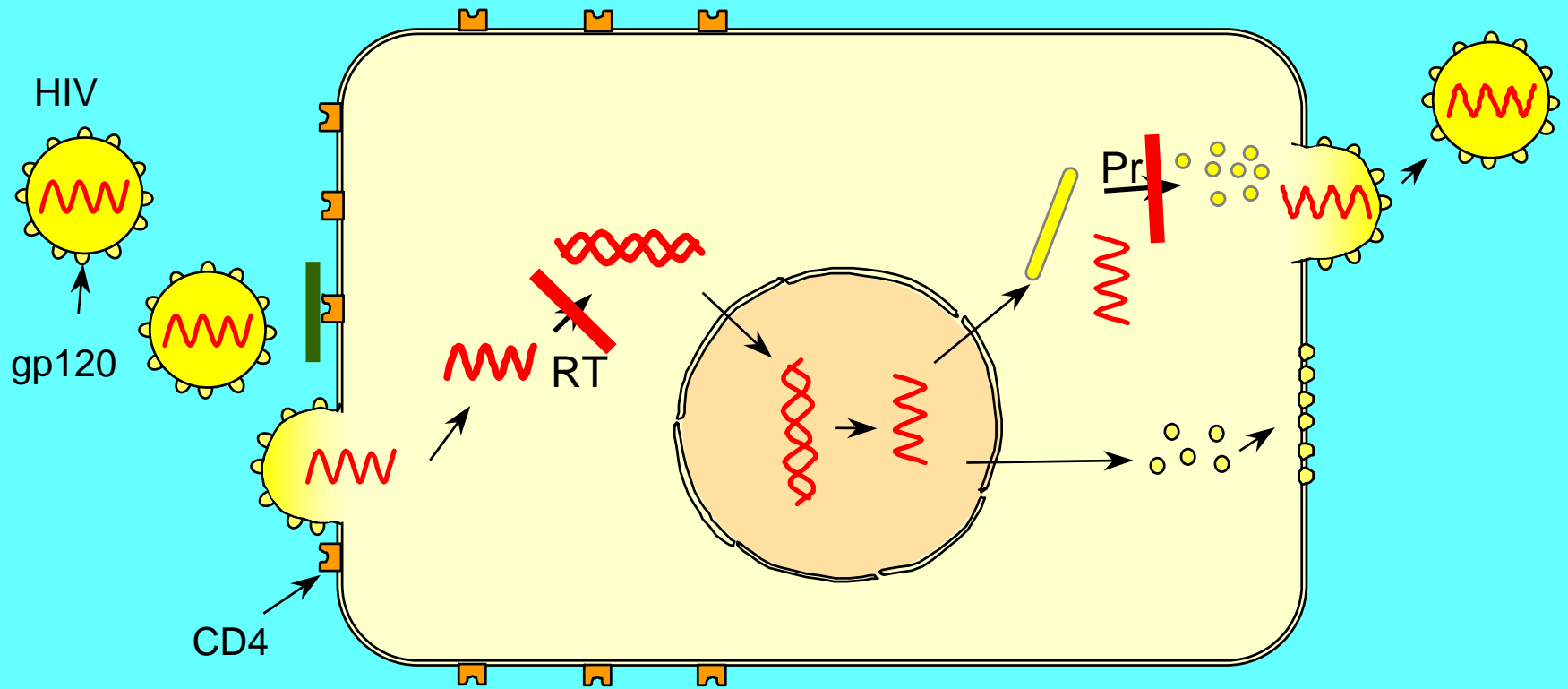
Systemischer Immundefekt



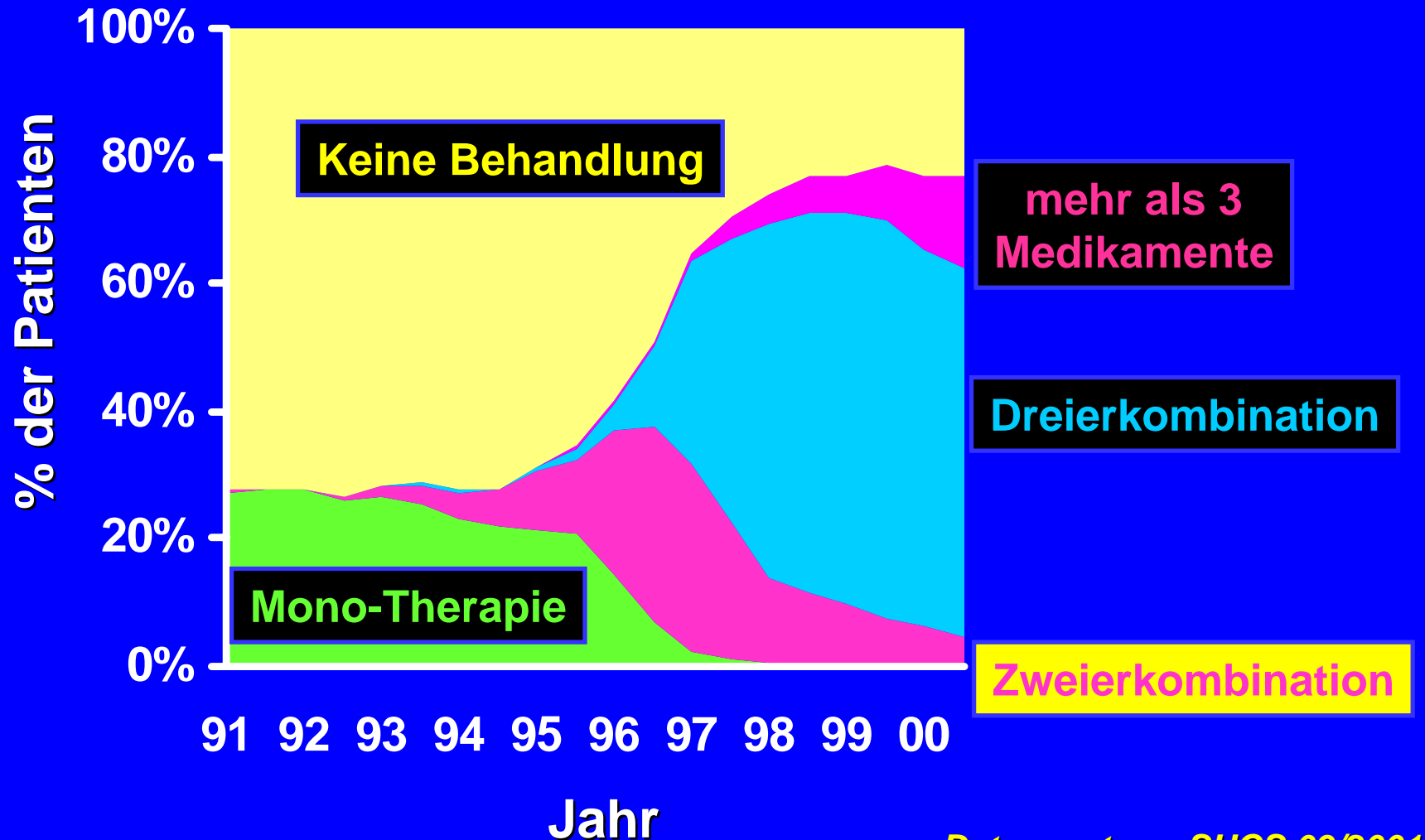
AIDS definierende OI und CD4



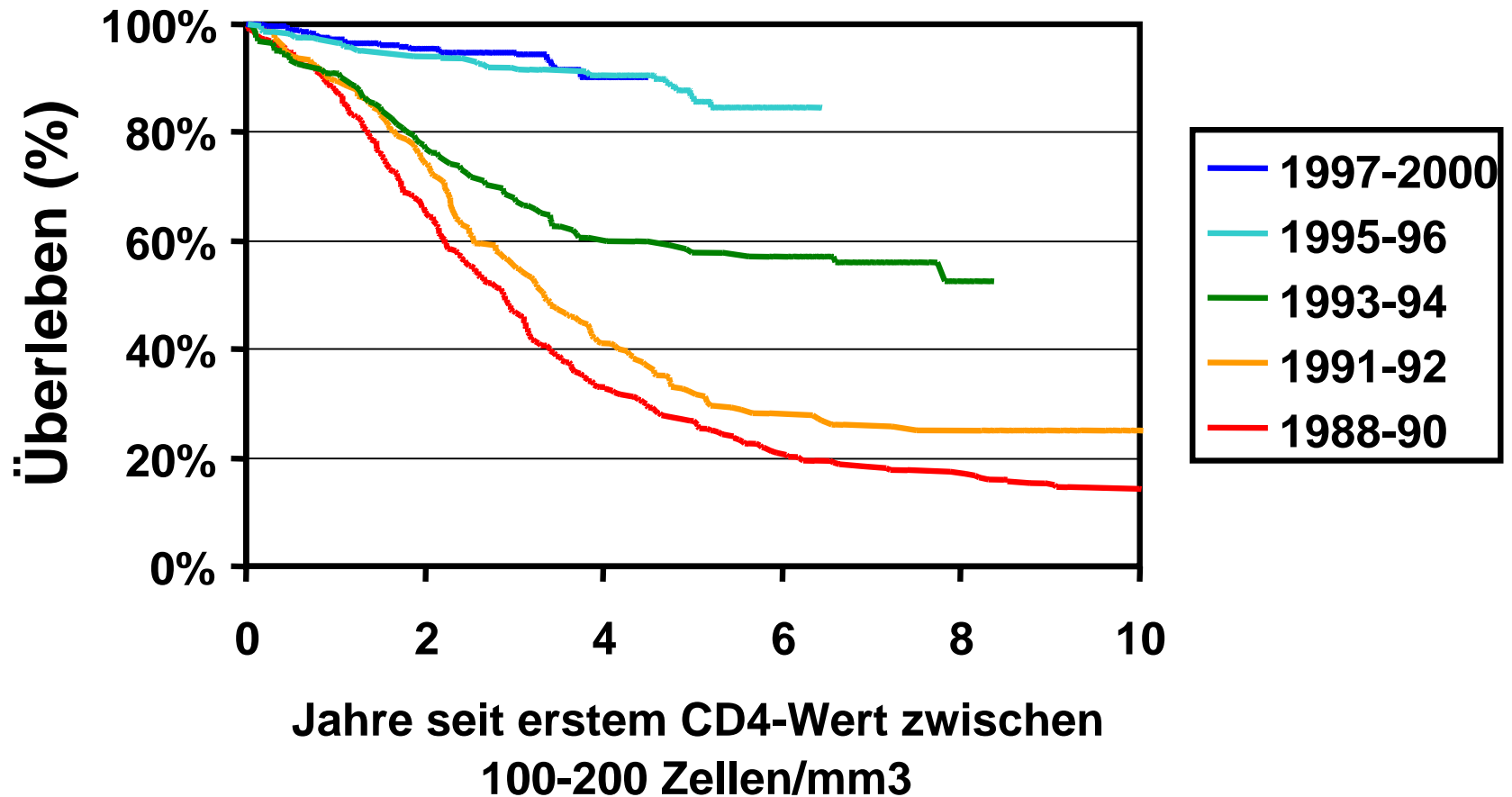
Medikamente gegen HIV



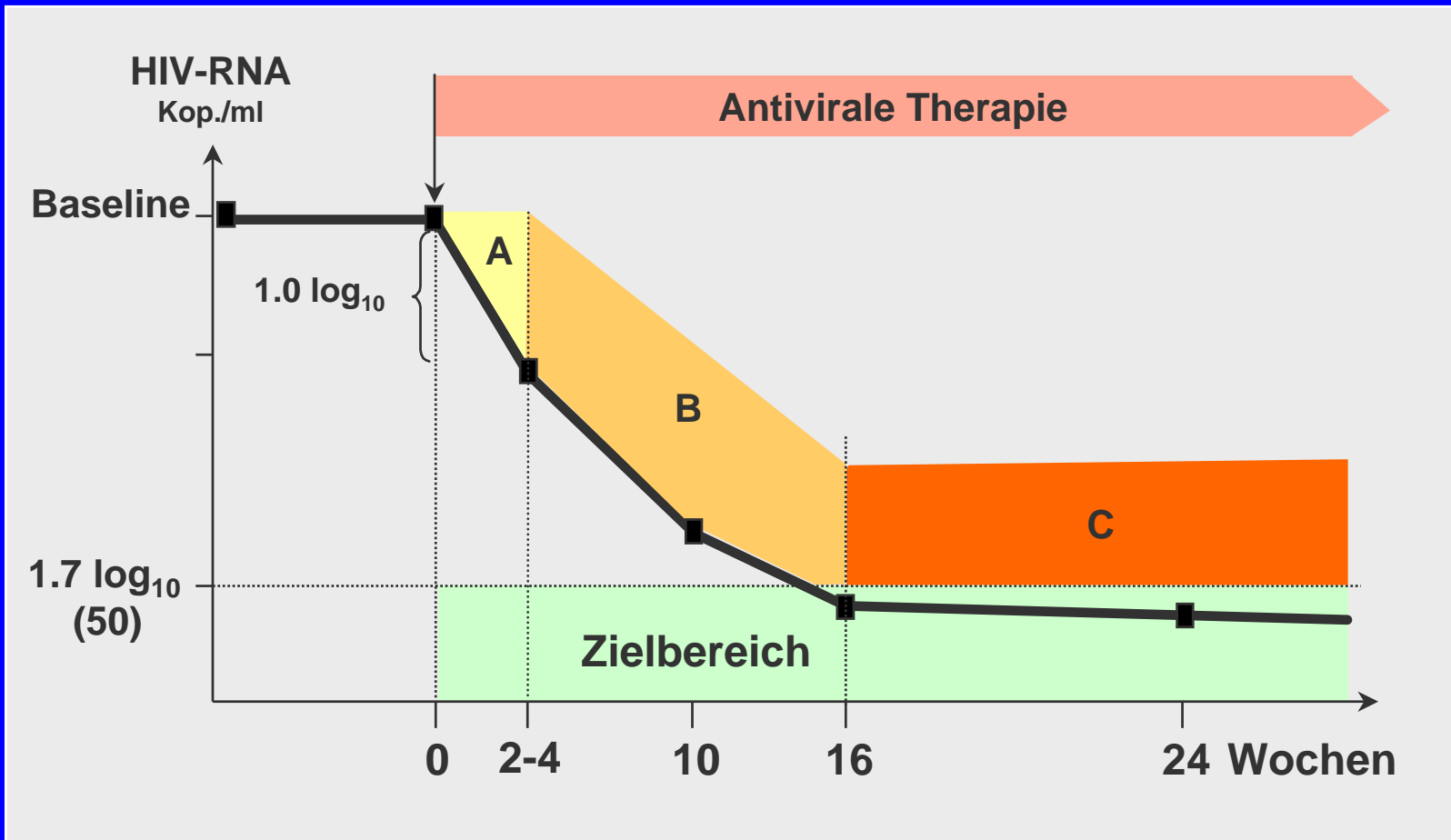
Antivirale Therapie



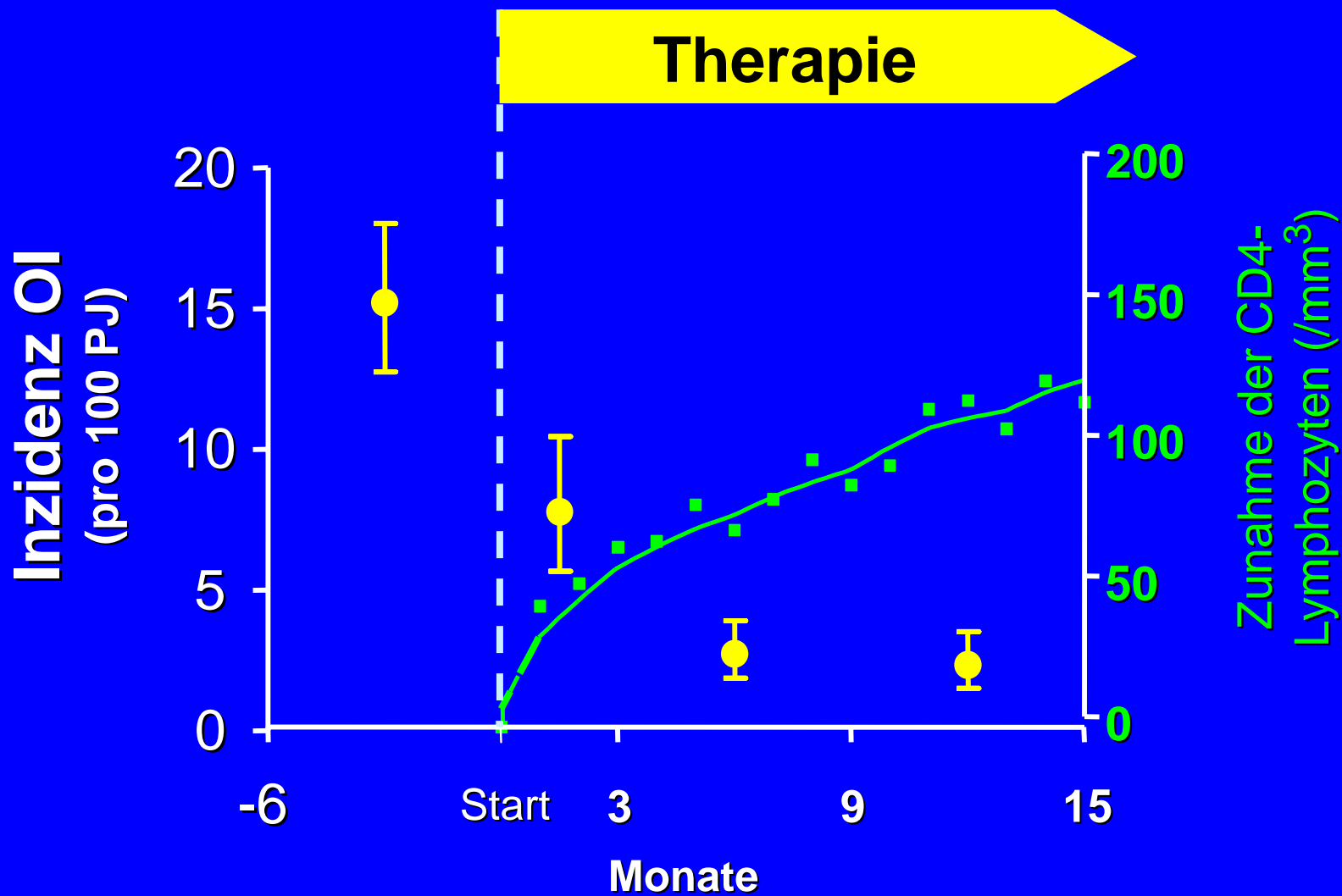
Überleben mit CD4 100-200 /mm³



Therapiekontrolle mit HIV-RNA

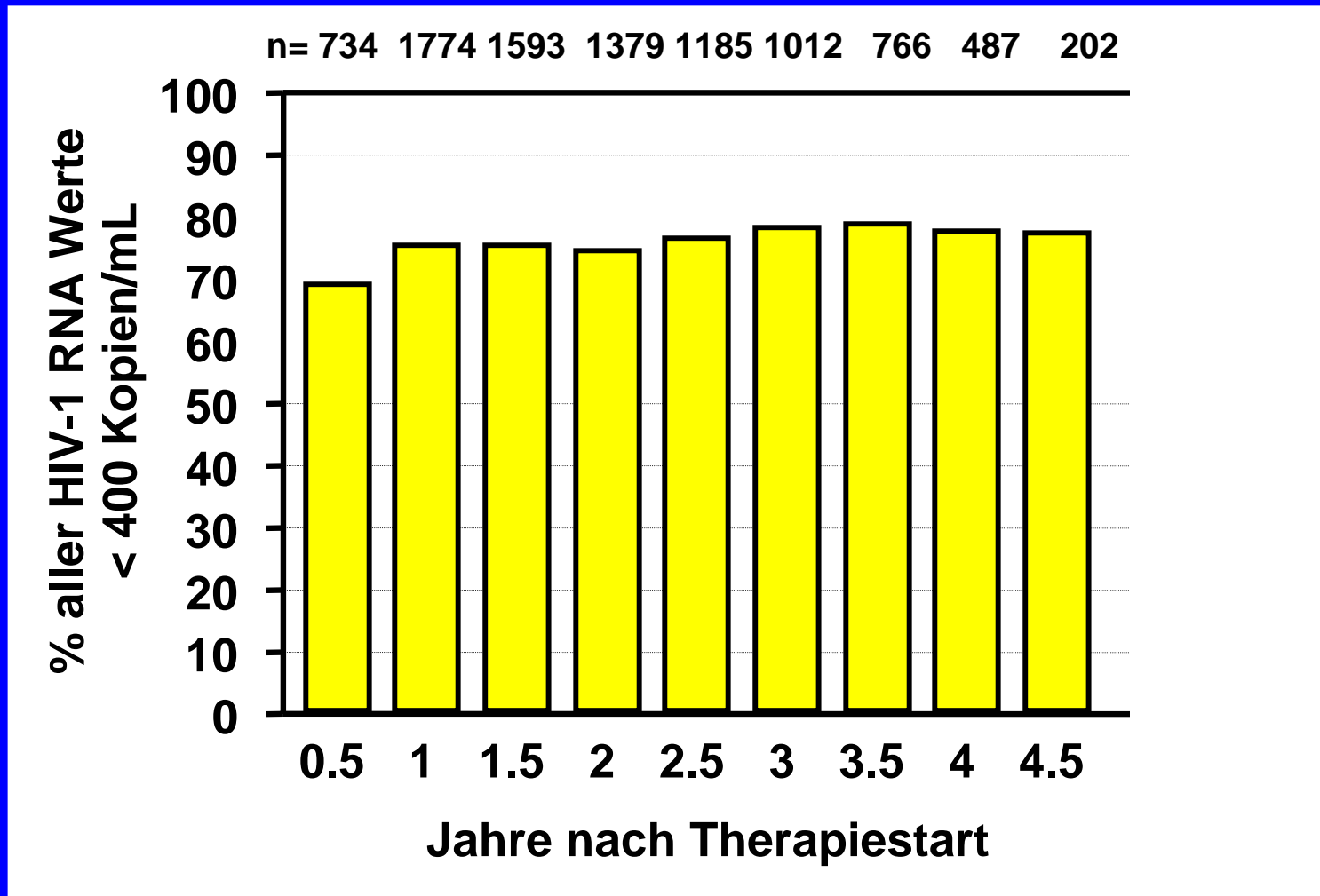


Erholung des Immunsystems



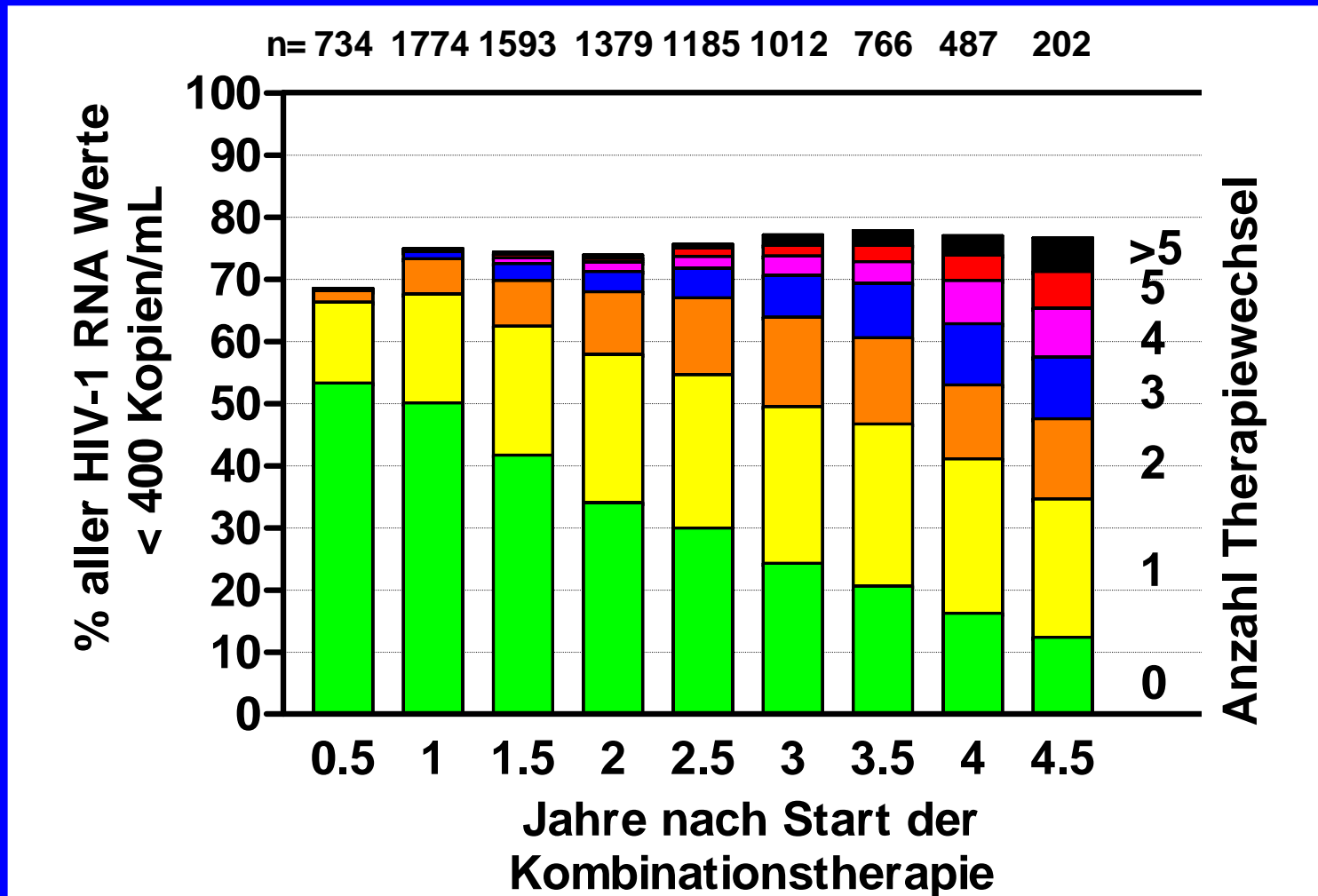
Ledergerber et al., JAMA 1999

Langzeitwirkung von HART



Ledergerber et al., Lancet 1999 (aktualisiert)

Langzeitwirkung von HART



Ledergerber et al., Lancet 1999 (aktualisiert)

Prevalence of adverse events associated with potent antiretroviral treatment: Swiss HIV Cohort Study

Jacques Fellay, Karim Boubaker, Bruno Ledergerber, Enos Bernasconi, Hansjakob Furrer, Manuel Battegay, Bernard Hirschel, Pietro Vernazza, Patrick Francioli, Gilbert Greub, Markus Flepp, Amalio Telenti, for the Swiss HIV Cohort Study*

THE LANCET • Vol 358 • October 20, 2001

Adverse effects	Nucleoside analogue reverse transcriptase inhibitors				Protease inhibitors			Non-nucleoside reverse transcriptase inhibitors			
	Zidovudine	Lamivudine	Stavudine	Didanosine	Abacavir	Ritonavir	Saquinavir	Indinavir	Nelfinavir	Efavirenz	Nevirapine
Fever	0.6 (0.3-1.2)	1.0 (0.5-2.0)	1.8 (0.9-3.7)	0.6 (0.2-1.5)	2.2 (0.9-5.7)	1.3 (0.5-3.2)	1.5 (0.6-4.1)	1.1 (0.5-2.5)	0.8 (0.4-1.4)	1.1 (0.5-2.6)	0.8 (0.2-3.5)
Headache	1.0 (0.7-1.3)	1.3 (0.9-1.9)	1.0 (0.5-1.9)	0.7 (0.5-1.0)	1.6 (0.9-2.6)	0.8 (0.5-1.2)	1.0 (0.6-1.7)	1.1 (0.8-1.5)	1.0 (0.8-1.3)	1.1 (0.7-1.7)	1.1 (0.6-2.1)
Fatigue	1.0 (0.8-1.3)	1.2 (0.9-1.7)	1.0 (0.8-1.3)	0.7 (0.5-0.9)	1.0 (0.6-1.5)	0.9 (0.6-1.3)	1.3 (0.8-2.0)	1.0 (0.7-1.3)	1.1 (0.9-1.5)	1.1 (0.8-1.6)	0.9 (0.5-1.6)
Nausea	1.3 (0.9-1.7)	0.9 (0.6-1.4)	0.9 (0.6-1.2)	0.8 (0.6-1.3)	1.4 (0.9-2.3)	1.1 (0.7-1.7)	1.0 (0.5-1.7)	1.3 (0.9-1.9)	0.8 (0.6-1.1)	1.2 (0.8-1.9)	1.4 (0.8-2.7)
Vomiting	1.4 (0.9-2.1)	1.1 (0.6-1.4)	0.7 (0.4-1.1)	1.0 (0.6-1.8)	0.5 (0.3-0.8)	1.1 (0.5-2.1)	0.5 (0.2-1.2)	1.0 (0.6-1.8)	0.7 (0.5-1.1)	1.3 (0.7-2.3)	1.6 (0.7-3.7)
Diarrhoea	0.8 (0.6-1.1)	0.5 (0.4-0.7)	0.9 (0.7-1.2)	1.3 (0.9-1.7)	0.5 (0.3-0.8)	0.5 (0.2-1.2)	0.5 (0.1-0.9)	0.5 (0.1-0.9)	0.5 (0.1-0.9)	0.9 (0.6-1.3)	1.0 (0.6-1.9)
Mood disorders	1.1 (0.8-1.4)	1.0 (0.8-1.4)	1.0 (0.8-1.4)	0.5 (0.4-0.8)	1.0 (0.6-1.6)	0.9 (0.6-1.3)	1.4 (0.8-2.2)	1.1 (0.8-1.5)	0.8 (0.6-1.0)	1.6 (0.9-2.8)	1.6 (0.9-2.8)
Sleep disorders	0.9 (0.7-1.2)	0.9 (0.6-1.3)	1.1 (0.8-1.5)	0.9 (0.6-1.4)	1.4 (0.9-2.3)	0.8 (0.5-1.3)	0.9 (0.5-1.5)	0.9 (0.6-1.3)	0.8 (0.6-1.1)	1.0 (0.5-1.9)	1.0 (0.5-1.9)
Rash	0.8 (0.5-1.2)	1.2 (0.7-2.0)	1.4 (0.9-2.3)	1.1 (0.7-2.0)	0.9 (0.4-2.0)	0.6 (0.3-1.3)	1.2 (0.6-2.7)	0.6 (0.2-2.9)	0.7 (0.5-1.1)	1.0 (0.5-1.8)	0.9 (0.3-2.7)
Myositis	0.4 (0.2-1.2)	1.2 (0.4-3.3)	2.9 (0.9-8.7)	1.1 (0.4-3.3)	2.8 (0.7-11.1)	0.7 (0.1-3.7)	0.3 (0.1-2.5)	0.8 (0.2-2.9)	1.2 (0.5-3.1)	3.0 (0.9-9.5)	..
Nephrolithiasis	0.4 (0.1-1.6)	2.6 (0.3-23.9)	2.1 (0.9-3.8)	1.2 (0.2-8.0)	1.1 (0.1-15.0)	0.2 (0.1-1.0)	0.2 (0.1-1.0)	1.2 (0.2-3.0)	..
Paresthesia	1.1 (0.6-1.9)	0.9 (0.5-1.5)	0.9 (0.5-1.5)	0.7 (0.4-1.1)	1.4 (0.8-2.3)	1.2 (0.7-2.0)	1.0 (0.5-1.9)	1.0 (0.5-1.9)	1.1 (0.6-1.9)	0.8 (0.3-1.6)	1.2 (0.6-2.1)

Störungen im Fettstoffwechsel



Muss Therapie früh einsetzen ?

HIV Viral Load Response to Antiretroviral Therapy According to the Baseline CD4 Cell Count and Viral Load

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Schlomo Staszewski, MD

Rainer Weber, MD

Ole Kirk, MD

Patrick Francioli, MD

Veronica Miller, PhD

Pietro Vernazza, MD

Jens D. Lundgren, DMSc

Bruno Ledergerber, PhD

for the Swiss HIV Cohort Study,
the Frankfurt HIV Clinic Cohort,
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Rates of Disease Progression by Baseline CD4 Cell Count and Viral Load After Initiating Triple-Drug Therapy

Robert S. Hogg, PhD

Benita Yip, BSc (Pharm)

Keith J. Chan, MSc

Evan Wood, BSc

Kevin J. P. Craib, MMath

Michael V. O'Shaughnessy, OBC,
PhD

Julio S. G. Montaner, MD, FRCPC,
FCCP

Context Current recommendations for initiation of antiretroviral therapy in HIV-infected patients with human immunodeficiency virus type 1 (HIV) are based on baseline lymphocyte cell counts and plasma HIV RNA levels. The relative prognostic value of each marker following initiation of therapy has not been fully characterized.

Objective To describe rates of disease progression to death and AIDS in HIV-infected patients starting triple-drug antiretroviral therapy, stratified by baseline CD4 cell count and HIV RNA levels.

Design, Setting, and Participants Population-based analysis of 1211 HIV-infected, therapy-naïve HIV-positive men and women aged 18 years or older in British Columbia who initiated triple-drug therapy between August 1, 1996, and September 30, 1997.

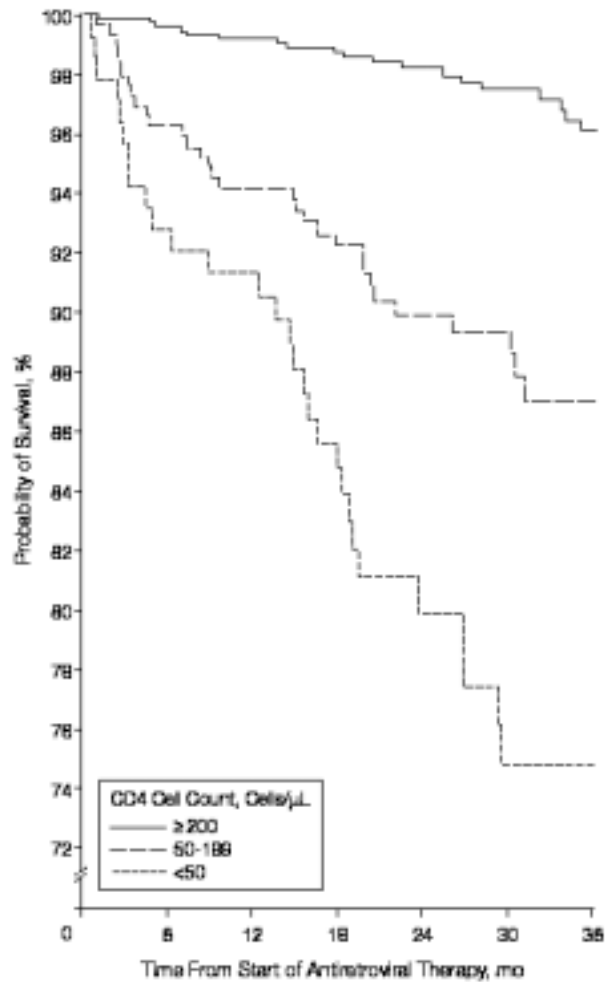
Main Outcome Measure Cumulative mortality rates from the initiation of therapy.

JAMA, 29. Nov. 01

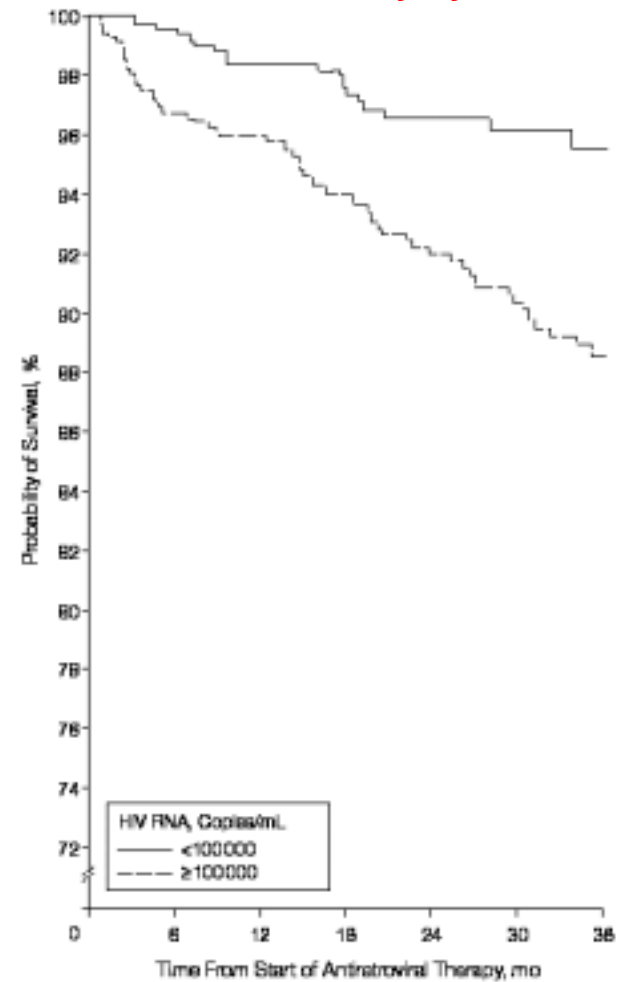
CD4 / RNA und Mortalität bei HAART

Figure 2. Cumulative Progression to Death for Treatment-Naive Subjects Starting Antiretroviral Therapy by Combined Strata of CD4 Cell Counts and Viral Load Levels

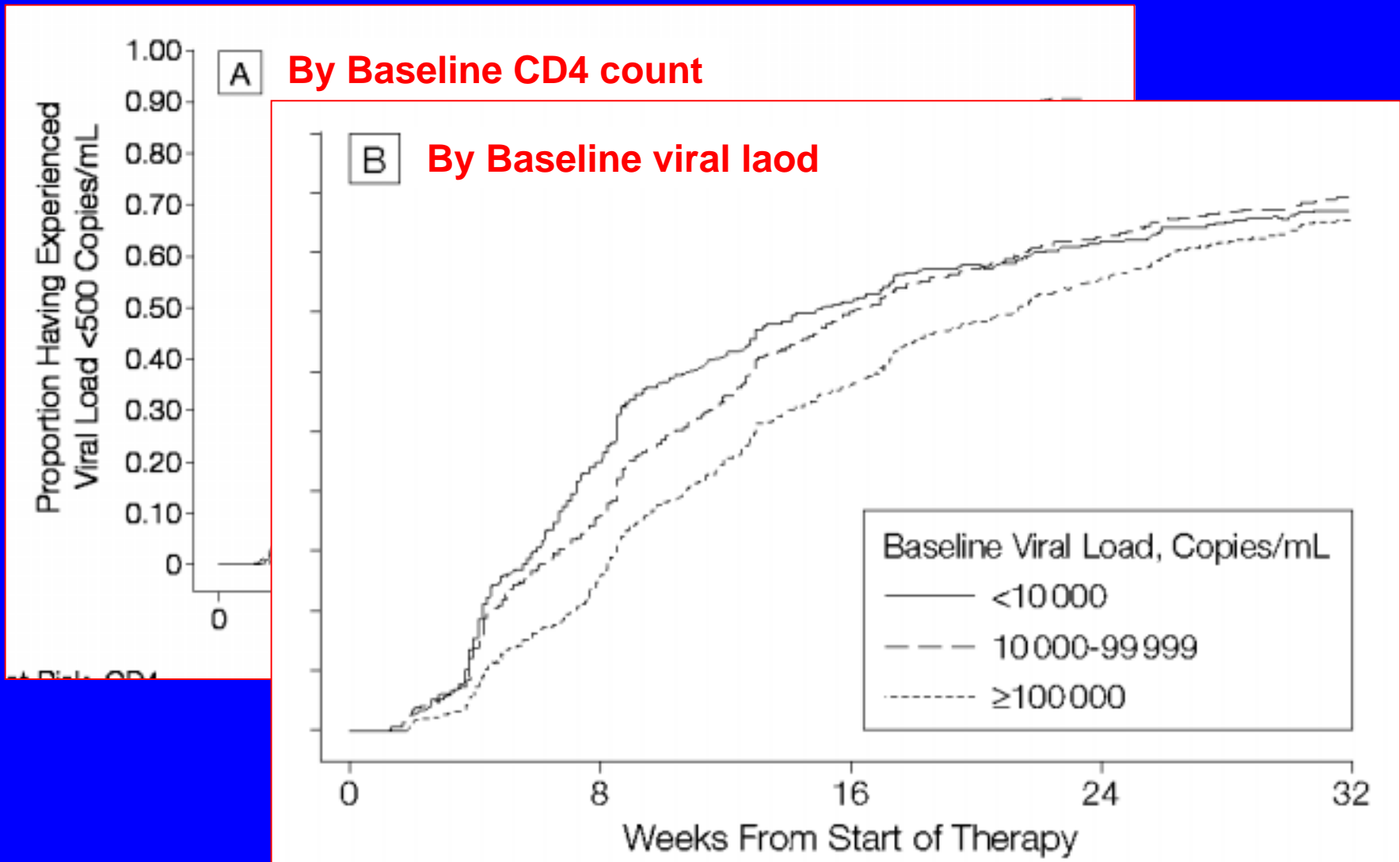
A Cumul. Mortality by BL CD4



B Cumul. Mortality by BL RNA

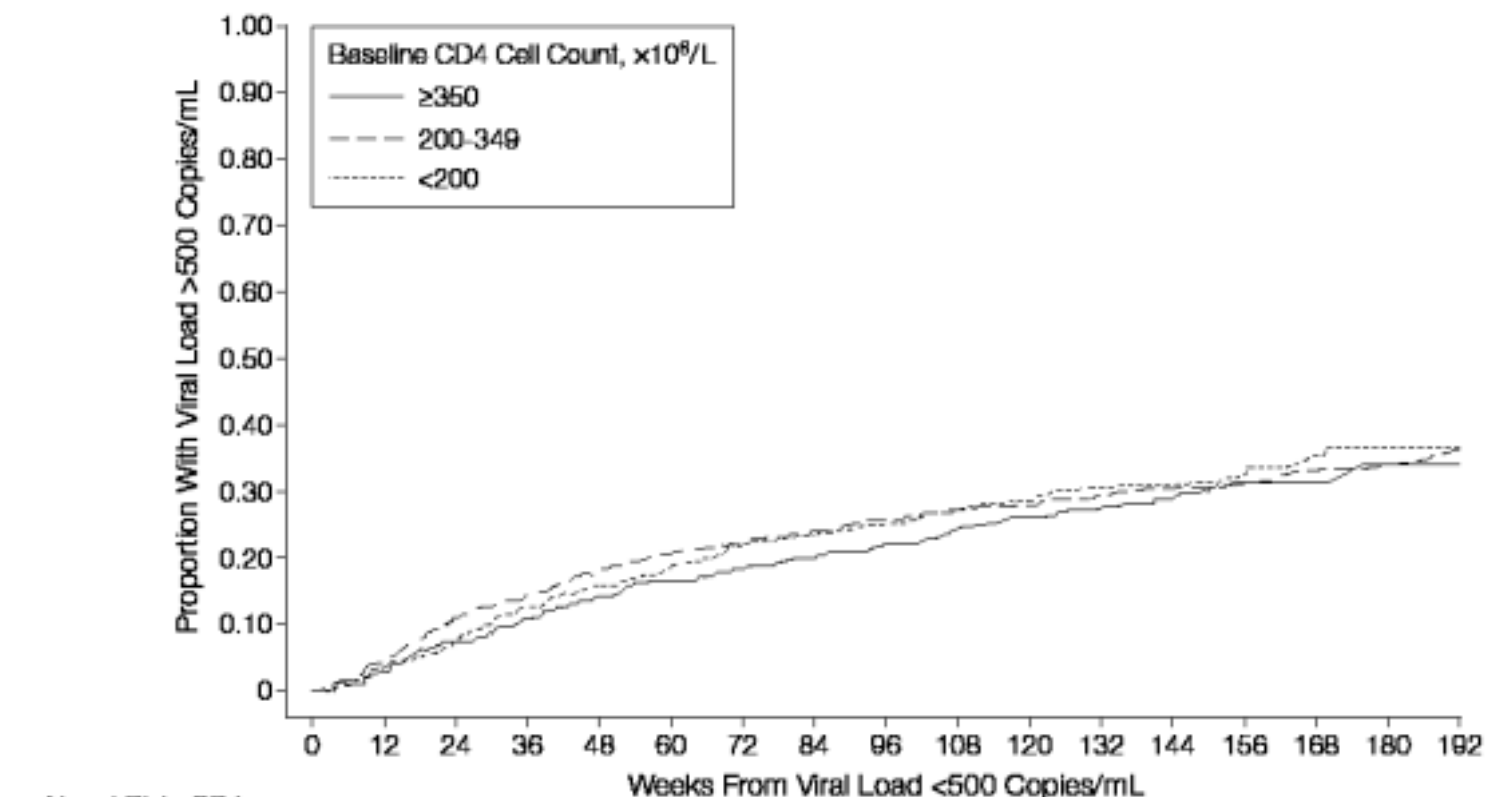


CD4/RNA und Therapieerfolg



CD4 und 2° Therapieversagen

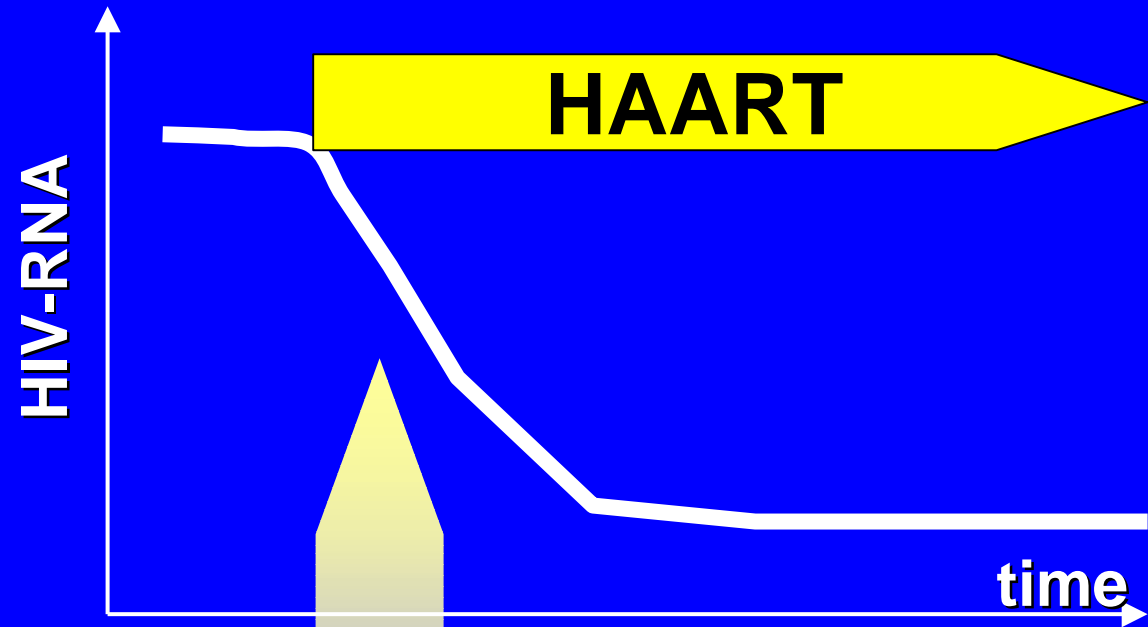
Figure 2. Proportion of Patients With Viral Rebound Greater Than 500 Copies/mL on 2 Consecutive Occasions, According to Baseline CD4 Cell Count



No. at Risk, CD4
Cell Count, $\times 10^6/L$

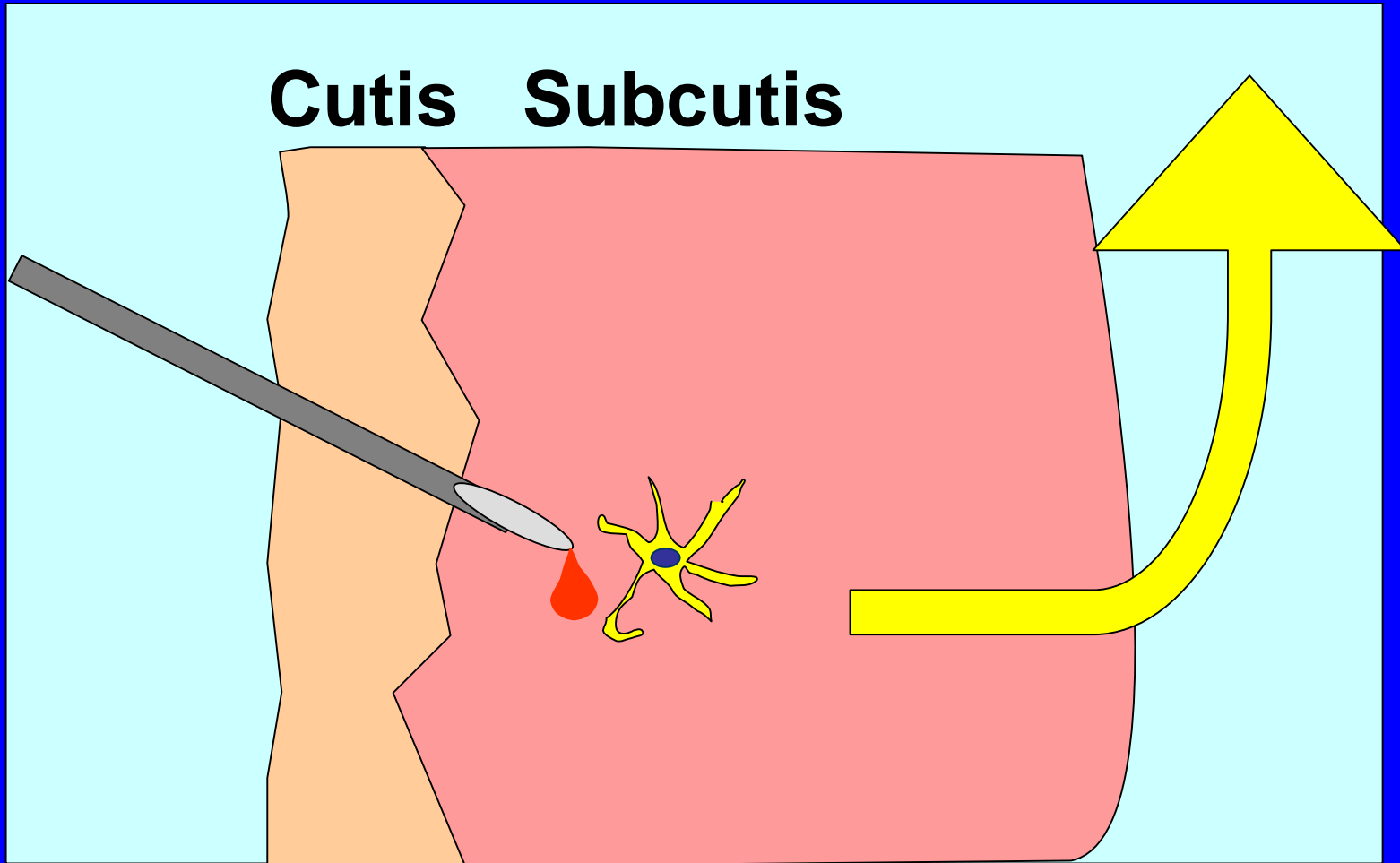
≥ 350	692	485	319	143	10
200-349	767	521	344	157	18
< 200	1282	791	527	300	59

MEMS-training: Konzept



HIV-turnover	+++	+++	++	(+)
Selektionsdruck	0	+++	+++	+++
Risiko Resistenzen	0	+++	+	(+)

Autsch! – Was nun?



Das Risiko hängt ab von.....

- Tiefe der Verletzung
- Menge des Blutes
- Konzentration des Virus im Blut

Wirksamkeit der PEP bei HIV

- **Tierversuche**
 - Wirksam wenn sehr früh behandelt
- **Fall / Kontroll - Studie CDC**
 - Reduktion 79% (bis 72 Stunden)
 - Behandlung nur mit AZT
- **Heute Kombinationsbehandlung**