

LAB INSIDER

ANTIVIRAL CHEMOTHERAPY

Practical Updates for the GP in 2026 (Excluding Antiretroviral Therapy)

Antiviral therapy has historically presented a unique challenge. Unlike bacteria, viruses rely heavily on host cellular machinery, limiting therapeutic targets and narrowing the therapeutic window.

Despite these challenges, antiviral chemotherapy has evolved rapidly. Today, early intervention in primary care can significantly reduce complications, hospitalisation, and transmission.

This newsletter reviews **six antiviral strategies that every GP should confidently navigate in 2026**, with practical prescribing insights relevant to daily practice.

The Ongoing Challenges in Antiviral Therapy

Before reviewing specific agents, it is worth remembering the inherent limitations:

Drug Resistance

RNA viruses in particular mutate rapidly. Selective pressure from incomplete or delayed treatment contributes to resistance.

Latency

Dormant viruses (e.g. herpesviruses) remain inaccessible to current therapy.

Toxicity

Overlapping metabolic pathways can result in renal dysfunction, marrow suppression, or drug-drug interactions.

Narrow Spectrum

Most antivirals are virus-specific.

Paediatric Limitations

Dosing and formulation gaps persist.

High Therapeutic Index Required

Selective viral targeting remains essential.

Despite these constraints, early targeted therapy in primary care is now both impactful and achievable.

Therapeutic Index

$$TI = \frac{TD_{50}}{ED_{50}}$$

Toxic dose in 50% of the population

Effective dose in 50% of the population

Emerging frontiers worth watching

Even in non-retroviral space, antiviral innovation continues:

- Long-acting antivirals under development
- Expanded RSV prevention strategies
- Improved oral polymerase inhibitors
- Greater integration of rapid molecular diagnostics into primary care.

The future of antiviral chemotherapy lies in early detection and early intervention.

The role of the Lab in antiviral Stewardship

Antivirals are most effective when:

- The correct virus is identified
- Therapy is initiated early
- Resistance is recognised
- Renal function and viral load are monitored appropriately

Modern PCR platforms now allow rapid differentiation of respiratory viruses, herpesviruses, and hepatitis viral loads — reducing diagnostic uncertainty and unnecessary empirical therapy.

Appropriate laboratory confirmation supports:

- Rational prescribing
- Reduced resistance pressure
- Better patient counselling
- Targeted follow-up

Practical take-home points for 2026

- Early treatment matters more than drug choice in many viral infections.
- Suppressive HSV therapy is underutilised in appropriate patients.
- Influenza antivirals are most valuable in high-risk groups.
- COVID antivirals require careful interaction review.
- Hepatitis B monitoring is a long-term GP responsibility.
- Diagnostic precision improves antiviral effectiveness.

Antiviral chemotherapy remains a rapidly evolving field. While limitations persist — resistance, latency, toxicity, and narrow spectrum — primary care now occupies a pivotal position in early antiviral intervention.

As laboratory technology advances, the partnership between clinician and virology laboratory becomes increasingly central to effective antiviral stewardship.

In the coming months, we will address antiretroviral therapy strategies in detail.



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Influenza

Oseltamivir Still Matters - But Timing is Everything

Oseltamivir remains the mainstay of influenza treatment. While not dramatic in healthy young adults, it significantly reduces complications in:

- Patients over 65
- Cardiac or pulmonary disease
- Pregnant women
- Immunocompromised patients
- Diabetics

Key Point:

Initiate within **48 hours** of symptom onset for maximal benefit. In high-risk patients, treatment beyond 48 hours may still be justified. Emerging resistance mutations (notably neuraminidase substitutions) remain uncommon locally but reinforce the need for rational prescribing.

Practical GP Pearl:

In peak influenza season, clinical diagnosis is often sufficient. However, PCR confirmation is valuable in atypical presentations or institutional outbreaks — an area where rapid lab turnaround becomes clinically useful.

HerPeS Simplex Virus (HSV)

Suppression Is Underutilised

Aciclovir and **valaciclovir** remain highly effective and safe. Where GPs often underestimate value is in **suppressive therapy**, which:

- Reduces recurrence frequency
- Decreases viral shedding
- Lowers transmission risk in discordant couples

For patients with ≥ 6 recurrences per year, suppressive therapy significantly improves quality of life.

Emerging Insight:

There is growing recognition that HSV-1 genital infection is increasing in prevalence and may behave differently epidemiologically from HSV-2.

Laboratory Insight:

Type-specific PCR confirmation assists counselling and long-term management planning.

HePatitiS B

The Quiet Success Story in Primary Care

While antiviral therapy for hepatitis B is often specialist-guided, GPs play a central role in:

- Identifying chronic infection
- Monitoring ALT and viral load
- Recognising treatment eligibility

Tenofovir and **entecavir** have transformed long-term suppression with high resistance barriers.

Important reminders:

- Not all chronic HBV requires immediate treatment.
- Viral load and ALT trends guide intervention.
- Monitoring prevents silent progression to cirrhosis or HCC.

The GP's role in screening and longitudinal monitoring remains critical.

Covid 19 Oral Antivirals

Early Risk Stratification is Critical

Although the pandemic phase has passed, COVID-19 remains a seasonal respiratory pathogen with high-risk subgroups.

The combination **nirmatrelvir/ritonavir (Paxlovid)** has demonstrated reduction in progression to severe disease when started early in high-risk patients.

Challenges include:

- Significant drug-drug interactions (via CYP3A inhibition)
- Renal dosing considerations
- Rebound phenomena (usually mild)

Molnupiravir remains an alternative where interactions are problematic, though slightly less effective.

Key Point:

The window for intervention is narrow — within 5 days of symptom onset.

Primary care remains the critical decision point for preventing progression.

Varicella ZOster Virus (Shingles)

Early Treatment Reduces Neuralgia

Valaciclovir initiated within 72 hours of rash onset:

- Reduces acute pain duration
- Lowers risk of post-herpetic neuralgia
- Reduces viral shedding

In elderly patients, even modest reduction in neuralgia has substantial quality-of-life impact.

Clinical Tip:

In immunocompromised individuals, consider lower threshold for intravenous referral.

Early PCR confirmation is particularly useful in atypical dermatomal presentations.

Cytomegalovirus (CMV)

Knowing When to Think About it

CMV disease is primarily a concern in:

- Immunocompromised patients
- Transplant recipients
- Advanced HIV (outside ART scope)

While **valganciclovir** is not routine GP prescribing, early suspicion and testing can be life-saving.

Emerging data suggests CMV reactivation may play a role in broader inflammatory states, though routine screening is not indicated.

Recognition remains the key skill.