voxilaprevir, and ledipasvir/sofosbuvir tablets can be disintegrated in water, juice, or milk with minor stirring and pressure with a spoon. However, the pharmacokinetic parameters of these drugs when disintegrated, crushed, or split have not been compared with the whole tablet.

Currently, there are no commercially available tests that can be used to assess for therapeutic DAA levels in the setting of crushing or cutting tablets. Stopping or interrupting HCV treatment could lead to the development of resistance or treatment failure, and thus, continuation of DAAs is paramount for their complete recommended course. Until further pharmacokinetic studies are available, the benefit of continuing DAA therapy in a crushed form appears to outweigh the risk of DAA interruption.

Donor profiles and recipient selection criteria when considering HCV-infected donors

Clarification and accurate interpretation of a donor's HCV testing profile is imperative to educate potential recipients and their providers about the likelihood of disease transmission after transplant. This section defines donor HCV profiles and discusses factors to consider when assessing potential donors and recipients, with special attention to concomitant HBV.

Interpretation of donor HCV profiles

HCV donor profiles with associated interpretations are outlined in Table 3. A positive nucleic acid test (nucleic acid testing [NAT]+) result indicates viremia and an active infection in the donor. As HCV Ab may take up to 2 to 3 months to develop following virus exposure, donors who test Ab−/NAT+ are presumed to have recent infection.[40] A NAT− result suggests absence of active infection; in the setting of an Ab+/NAT− donor, this could mean successfully treated or spontaneously resolved HCV infection. However, there is an eclipse period in which the virus may be inoculated and transmitted but still undergoing a lag or early replication phase too low to be detected, even by the most sensitive methods such as NAT. As NAT may take 5 to 8 days to become detectable following infection acquisition, there may be false negatives if infection developed in the 5 to 8 days before testing.[41–43]

Table 3 Interpretation of Donor HCV Test Results and Considerations at Time of Organ Offer

Donor **HCV** test results	Interpretations and considerations
Ab + / NAT +	• Active infection present
Ab − / NAT +	• Active infection present; donor in serologic window period suggestive of recent exposure, or • Consider false-positive NAT result
Ab + / NAT −	• Donor exposed to HCV but active infection NOT present because of current or prior treatment or spontaneous clearance, or • Consider false-positive Ab result
Ab − / NAT −	• In most cases, no exposure or infection present • In donors with recent risk factors for HCV infection (PHS IRDs) who may be in an eclipse period, consider possibility of hyperacute infection and follow guidelines for post-transplantation infectious disease surveillance

Abbreviations: Ab, antibody; HCV, hepatitis C virus; NAT, nucleic acid testing; PHS, Public Health Service.

Eclipse period for donor viral infections

Currently, deaths related to anoxia (usually related to intravenous drug use or opioid overdose) account for 65% of HCV NAT+ donors in the USA,[21] and up to 90% of these are considered to be increased risk donors (IRDs).[44] IRDs with negative NAT for HCV, HBV, or human immunodeficiency virus (HIV) may be in an eclipse period for these infections. Thus, IRD donors who are HCV Ab−/NAT− at time of organ donation should have close monitoring for infection acquisition not only for HCV but also for HBV and HIV. Currently, Public Health Service guidelines in the US recommend testing for such infections between 1 and 3 months post-transplant and again at 12 months following transplant from IRDs.[45] These guidelines are being updated and may shorten the period considered to be at risk of infection acquisition from an IRD.[46]

Donor and recipient selection: General considerations

Studies suggest that the risk of HCV transmission from Ab +/NAT− cardiothoracic donors is negligible, with the positive Ab conferring minimal to no additional risk.[30,47,48] These donors should be considered routinely for all waitlisted candidates. Conversely, the risk of HCV transmission from NAT+ donors, regardless of Ab status, is nearly 100%.[27–30] As treatment is complex and expensive and long-term outcomes unclear, this strategy should be undertaken only after education and informed consent of potential recipients and in collaboration with providers who have expertise in treating HCV. For patients who develop donor-derived HCV infection, ensuring timely and guaranteed access to DAAs is imperative, and centers that accept NAT+ donors should have established protocols in place for recipient testing and treatment. Additionally, because data suggest that HCV treatment failure is more likely in patients with advanced liver fibrosis,[49,50] for patients who are listed for heart or lung transplant alone (as opposed to dual heart-liver or dual lung-liver), caution should be exercised in accepting viremic donors in the setting of pre-existing significant liver disease. Published data demonstrate excellent short-term outcomes in patients that undergo combined heart-kidney transplantation from HCV NAT+ donors[29]; data regarding other combined organ transplants are lacking.