**Appendix 12: Medically important viruses found in the share-ome, transmission and disease conditions that they produce in human**

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| **Family** | **Species** | **Nucleic type** | **Mode of**  **Transmission** | **Disease condition** |
| Adenoviridae | *Adenoviruses* | DNA | Respiratory droplets, faecal-oral, venereal, | Upper respiratory tract infections, gastrointestinal, ophthalmologic, genitourinary, and neurologic diseases (Khanal, Ghimire, & Dhamoon, 2018) |
| Adenoviridae | *Human adenoviruses* | DNA | Respiratory droplets, faecal-oral, | Keratoconjunctivitis (EKC) and pharyngoconjunctival fever (Ghebremedhin & Ghebremedhin, 2014) |
| Adenoviridae | *Human mastadenoviruses* | DNA | Respiratory droplets, faecal-oral, | Respiratory infection, gastroenteritis, epidemic keratoconjunctivitis (Chen & Tian, 2018) |
| Circoviridae | *Human associated cyclovirus 3* | DNA | Faecal-oral | Respiratory and neurological infections (Smits et al., 2010) |
| Hepadnaviridae | *Hepatitis B virus* | DNA | Direct contact with body fluid of infected persons, during birth | Acute to chronic hepatitis, cirrhosis, and hepatocellular carcinoma (Anthony et al., 2015; Liang, 2009) |
| Herpesviridae | *Human alphaherpesviruses* | DNA | Body fluids | Encephalitis, Pneumonia |
| Herpesviridae | *Human betaherpesvirus 5* | DNA | Body fluids | Mononucleosis, pneumonia, birth defects, cervical cancer (Chan et al., n.d.) |
| Herpesviridae | *Human betaherpesviruses 6 & 7* | DNA | Body fluids | Cervical cancer(Chan et al., n.d.) |
| Herpesviridae | *Human gammaherpesviruses* | DNA | Body fluids, sexual contact | Kaposi’s sarcoma (KS), multicentric Castleman’s disease (MCD) and primary effusion lymphoma (PEL), mononucleosis, Burkitt’s lymphoma, nasopharyngeal carcinoma (NPC), Hodgkin’s disease, haemophagocytic lymphohistiocytosis syndrome and gastric cancers (Jha et al., 2016). |
| Herpesviridae | *Human herpesvirus 6* | DNA | Body fluids | Exanthem subitum (roseola infantum) (Caserta, Mock, & Dewhurst, 2001) |
| Papillomaviridae | *Alphapapillomaviruses* | DNA | Direct skin-to-skin contact with vaginal and anal sex | Cervical cancer, butchers warts (Schmitt, Dondog, Waterboer, & Pawlita, 2008; Van Doorslaer & Burk, 2010) |
| Papillomaviridae | *Betapapillomaviruses* | DNA | Direct contact | Cutaneous infections, squamous-cell carcinoma (Van Doorslaer & Burk, 2010) |
| Papillomaviridae | *Gammapapillomaviruses* | DNA | Indirect and direct contact, auto-inoculation | Commensal infections of the skin (Van Doorslaer & Burk, 2010) |
| Papillomaviridae | *Human papillomaviruses* | DNA | Direct skin-to-skin contact with vaginal and anal sex | Cervical cancer, anal cancer, non-genital warts (Schmitt et al., 2008; Van Doorslaer & Burk, 2010) |
| Parvoviridae | *Bufaviruses* | DNA | Oral-faecal | Acute diarrhoea (Huang et al., 2015) |
| Parvoviridae | *Human bocavirus* | DNA | Respiratory droplet, oral-faecal, urine | Respiratory tract diseases(Guido et al., 2016) |
| Polyomaviridae | *Human polyomavirus* | DNA | Respiratory droplet, oral-faecal | Haemorrhagic cystitis, multifocal leukoencephalopathy,  trichodysplasia spinulosa(Dalianis & Hirsch, 2013) |
| Poxviridae | *Cowpox virus* | DNA | Animal body fluid, bite from infected animal | Skin (pustular) eruption of hands, forearms or face, fever and lymphadenitis (Mauldin et al., 2017) |
| Poxviridae | *Variola virus* | DNA | Respiratory droplets or direct contact with the virus from skin lesions | Haemorrhagic and skin eruption |
| Arenaviridae | *Lassa mammarenavirus* | RNA | Urine or faeces of infected rat, direct contact with infected persons | Lassa haemorrhagic fever (Racsa, Kraft, Olinger, & Hensley, 2015) |
| Astroviridae | *Astroviruses* | RNA | Faecal-oral | Gastroenteritis, diarrhoea to encephalitis (Bosch, Pintó, & Guix, 2014; Jeong HS, Jeong, & Cheon, 2012) |
| Astroviridae | *Human astroviruses* | RNA | Faecal-oral | Gastroenteritis, diarrhoea to encephalitis (Bosch et al., 2014; Jeong HS et al., 2012) |
| Caliciviridae | *Norwalk virus* | RNA | Faecal-oral | Gastroenteritis (CDC) |
| Caliciviridae | *Sapovirus sp.* | RNA | Faecal-oral | Acute gastroenteritis (Oka, Wang, Katayama, & Saifb, 2015) |
| Coronaviridae | *Middle East respiratory syndrome-related coronavirus* | RNA | Camel droplet, human to humans contact | Pneumonia and bronchiolitis (Lim, Ng, Tam, & Liu, n.d.) |
| Coronaviridae | *Severe acute respiratory syndrome-related coronavirus* | RNA | Respiratory droplets, faecal-oral | Pneumonia and bronchiolitis (Lim et al., n.d.) |
| Coronaviride | *Human coronaviruses* | RNA | Respiratory droplets, faecal-oral | Common cold, pneumonia and bronchiolitis (Lim et al., n.d.) |
| Filoviridae | *Ebola viruses* | RNA | Body fluids( e.g blood) from infected humans or other animals | Ebola haemorrhagic fever (Racsa et al., 2015) |
| Filoviridae | *Marburg marburgvirus* | RNA | Contact with body fluids | Haemorrhagic fever (Racsa et al., 2015) |
| Flaviviridae | *Bouboui virus* | RNA | Arthropod bite | [Fever](https://en.wikipedia.org/wiki/Fever), [headache](https://en.wikipedia.org/wiki/Headache), and [malaise](https://en.wikipedia.org/wiki/Malaise), but [encephalitis](https://en.wikipedia.org/wiki/Encephalitis) and [haemorrhagic feve](https://en.wikipedia.org/wiki/Hemorrhagic_fever)r |
| Flaviviridae | *Dengue virus* | RNA | Mosquito, blood transfusion, organ transplant, mother to child at birth | Dengue fever (Tuiskunen Bäck & Lundkvist, 2013), dengue haemorrhagic fever (Racsa et al., 2015) |
| Flaviviridae | *Hepacivirus C* | RNA | Blood, sexual contact, transmission from mother to child | Hepatitis, liver cirrhosis, liver cancer (Smith et al., 2016) |
| Flaviviridae | *Japanese encephalitis virus* | RNA | Mosquito, Tick | Encephalitis (WHO, 2015) |
| Flaviviridae | *West Nile virus* | RNA | Mosquito bite | Meningitis, encephalitis, meningoencephalitis |
| Flaviviridae | *Yellow fever virus* | RNA | Mosquito bite | Haemorrhagic fever (Racsa et al., 2015) |
| Flaviviridae | *Zika virus* | RNA | Mosquito, mother-to-child, blood transfusion | Microcephaly (Ventura, Maia, Bravo-Filho, Gã, & Belfort Jr, 2016) |
| Hantaviridae | *Hantaan orthohantaviruses* | RNA | contact with rodent urine, saliva, or faeces | [Haemorrhagic fever with renal syndrome](http://en.wikipedia.org/wiki/Viral_hemorrhagic_fever), [Hantavirus pulmonary syndrome](http://en.wikipedia.org/wiki/Hantavirus#Hantavirus_.28cardio-.29pulmonary_syndrome) (Billings et al., n.d.; Y.-X. Liu et al., 2007; Z. Liu, Zhao, Han, Gao, & Zhang, 2008) |
| Hantaviridae | *Puumala orthohantavirus* | RNA | Inhaling infectious aerosols from vole (*Myodes glareolus*) saliva, urine, or faeces | Haemorrhagic fever (Racsa et al., 2015), renal syndrome and hantavirus pulmonary syndrome(Schwarz, Ranft, Piechotowski, Childs, & Brockmann, 2009) |
| Nairoviridae | *Crimean-Congo haemorrhagic fever orthonairovirus* | RNA | Tick bite | Severe haemorrhagic fever (Emmerich et al., 2018; Racsa et al., 2015) |
| Orthomyxoviridae | *Influenza A and B viruses* | RNA | Contact to respiratory droplets of infected persons and other animal | Flu (CDC, WHO) |
| Paramyxoviridae | *Human respirovirus 1* | RNA | Respiratory droplet | Acute febrile respiratory tract infection (Viral zone) |
| Paramyxoviridae | *Human rubulaviruses* | RNA | Respiratory droplet | Mumps (Viral zone) |
| Paramyxoviridae | *Measles morbillivirus* | RNA | Respiratory droplet, oral-faecal, urine | Fever, skin rash, cough and conjunctivitis, and a generalized immune suppression (De Vries, Duprex, & De Swart, 2011) |
| Paramyxoviridae | *Mumps rubulavirus* | RNA | Respiratory droplet | Haemorrhagic fever (Racsa et al., 2015) |
| Peribunyaviridae | *California encephalitis orthobunyavirus* | RNA | Mosquito bite | Encephalitis(Camp et al., 2018) |
| Peribunyaviridae | *Guaroa orthobunyavirus* | RNA | Mosquito bite | Encephalitis, fever (ViralZone) |
| Phenuiviridae | *Rift Valley fever phlebovirus* | RNA | Mosquito bite, animal body fluid | Haemorrhagic fever (Racsa et al., 2015) |
| Phenuiviridae | *SFTS phlebovirus* | RNA | Tick bite | Haemorrhagic fever (Racsa et al., 2015) |
| Picornaviridae | *Enteroviruses* | RNA | Respiratory droplet, oral-faecal | Poliomyelitis, hand-foot and mouth disease, myocarditis and pericarditis, meningitis (Oberste, Maher, Kilpatrick, & Pallansch, 1999) |
| Picornaviridae | *Hepatovirus A* | RNA | Oral-faecal | Hepatitis, cirrhosis, hepatocellular carcinoma (Abbas & Afzal, 2013) |
| Picornaviridae | *Human enteroviruses* | RNA | Respiratory droplet, oral-faecal | Acute gastroenteritis (Chansaenroj et al., 2017) |
| Picornaviridae | *Human rhinoviruses* | RNA | Respiratory droplet | Common cold (Palmenberg & Gern, n.d.) |
| Picornaviridae | *Parechovirus A* | RNA | Unknown | Aseptic meningitis (De Crom, Rossen, Van Furth, & Obihara, 2016) |
| Picornaviridae | *Rhinoviruses* | RNA | Person to person via contact or aerosol | Common cold (Palmenberg & Gern, n.d.) |
| Pneumoviridae | *Human orthopneumovirus* | RNA | Oral droplets | Severe bronchiolitis, pneumonia (Glezen, Taber, Frank, & Kasel, 1986) |
| Pneumoviridae | *Respiratory syncytial virus* | RNA | Reparatory droplets, oral droplets | Severe bronchiolitis, pneumonia (Glezen et al., 1986) |
| Reoviridae | *Banna virus* | RNA | Mosquito bite, direct contact from infected animal | Encephalitis(H. Liu et al., 2016) |
| Reoviridae | *Colorado tick fever virus* | RNA | Tick bites | Nonspecific flu-like disease and a biphasic fever (Johnson, Karabatsos, & Lanciotti, 1997) |
| Reoviridae | *Human rotavirus* | RNA | Oral-faecal | Severe life-threatening diarrhoea (Wen et al., 2012) |
| Reoviridae | *Rotaviruses* | RNA | Oral-faecal | Severe life-threatening diarrhoea (Wen et al., 2012) |
| Retroviridae | *Aids-associated retrovirus* | RNA | Body fluid from infected persons | AIDS(Ziegler, Johnson, Cooper, & Gold, 1985) |
| Retroviridae | *Human immunodeficiency viruses* | RNA | Body fluid from infected persons | AIDS(Ziegler et al., 1985) |
| Retroviridae | *Human mammary tumor virus* | RNA | Transmission from mice,  Body fluid from infected persons | Inflammatory breast cancer (Pogo, Holland, & Levine, 2010) |
| Retroviridae | *Human T-lymphotropic virus 4* | RNA | Direct human contact with primates | Leukaemia(Utsch Gonçalves et al., 2010) |
| Rhabdoviridae | *Rabies lyssavirus* | RNA | Animal (dog, skunks, raccoons, bats)bite, contact with animal droplet | Fatal encephalitis (Rupprecht, Kuzmin, & Meslin, 2017) |
| ssRNA negative-strand viruses | *Hepatitis delta virus* | RNA | Body fluid | Chronic hepatitis, cirrhosis, and hepatocellular carcinoma (Abbas & Afzal, 2013; Hughes, Wedemeyer, & Harrison, 2011) |
| Togaviridae | *Chikungunya virus* | RNA | Mosquito bite, blood transfusion | Acute fever and polyarthralgia(Ganesan, Duan, & Reid, n.d.) |
| Togaviridae | *Rubella virus* | RNA | Respiratory droplets, mother to child | Fever, skin rash, cough and conjunctivitis |