

**Supplementary Table S1: Potential regional and systemic complications in other organs / organ systems that are associated with viral pathogens causing acute respiratory infection (ARinf)**

<b>Specific organ / organ system</b>	<b>Potential complications</b>	<b>Examples of viral pathogens associated with complications</b>
<b>Respiratory tract</b> (regional complications)	Otitis media (1-5)	Influenza B, Rhinovirus, Respiratory Syncytial Virus (RSV), Parainfluenza
	Sinusitis (2, 6)	Rhinovirus, Parainfluenza
	Pharyngitis (2, 3, 5-9)	Influenza A, Influenza B, Rhinovirus, Coronavirus, Enterovirus, Parainfluenza, SARS-CoV-2
	Tonsillitis (9)	Adenovirus
	Pneumonia (2, 6, 10-12)	SARS-CoV-2, Influenza type A and B, Respiratory syncytial virus (RSV), Human Metapneumovirus, Enterovirus, Parainfluenza type 3
	Bronchitis / bronchiolitis (5, 6, 10, 12-16)	SARS-CoV-2, Respiratory syncytial virus (RSV), Human Metapneumovirus, Rhinovirus, Adenovirus, Enterovirus,
	Post-infective bronchial hyperreactivity, asthma exacerbations (1, 17)	Rhinoviruses, Adenovirus
<b>Cardiovascular</b>	Myocarditis (2, 6, 18-22)	SARS-CoV-2, Enterovirus, Parainfluenza, Influenza virus A and B, Adenovirus
	Pericarditis (2, 6, 21-25)	SARS-CoV-2, Rhinovirus, Enterovirus, Parainfluenza
<b>Nervous system</b>	Encephalitis (6, 13, 26)	Adenovirus, Enterovirus
	Meningitis (2, 6, 13)	Enterovirus, Parainfluenza
	Autonomic dysfunction (POTS and IST) (24, 27-29)	SARS-CoV-2
	Cognitive dysfunction (30-33)	SARS-CoV-2
	Post-viral fatigue syndrome (33-36)	Epstein Barr virus, SARS-CoV-2
<b>Renal / bladder</b>	Nephritis (37); Nephrotic Disease (2, 26)	Adenovirus, Parainfluenza, SARS-CoV-2
	Cystitis (26)	Adenovirus
<b>Gastrointestinal</b>	Gastroenteritis (6, 13, 38-40)	Coronavirus, Influenza A, Influenza B, Rhinovirus, Chlamydia pneumoniae, SARS-CoV-2
	Hepatitis (13, 22, 26); Hepatic injury(41)	Adenovirus, Enterovirus, Mycoplasma pneumoniae, SARS-CoV-2
<b>Musculoskeletal</b>	Myositis (42, 43); Rhabdomyolysis (2)	Parainfluenza virus, SARS-CoV-2
	Arthritis (44)	SARS-CoV-2
<b>Psychiatric</b>	Post infective psychiatric disorders e.g. anxiety, depression, insomnia and other sleep disorders) (30, 45, 46)	SARS-CoV-2

POTS: Postural orthostatic tachycardia syndrome; IST: Inappropriate Sinus Tachycardia

**Supplementary Table S2: Symptoms of acute respiratory infections (ARinf) (by predominant anatomical regions)**

<b>Predominant anatomical region</b>	<b>Symptom</b>
<b>Upper respiratory tract</b>	Blocked/plugged nose <sup>a</sup>
	Runny nose <sup>a</sup>
	Sneezing <sup>a</sup>
	Altered/loss sense of smell <sup>b</sup>
	Altered/loss sense of taste <sup>b</sup>
	Sinus pressure <sup>a</sup>
	Sore/scratchy throat <sup>b</sup>
	Hoarseness <sup>a</sup>
<b>Lower respiratory tract and regional (head / neck region)</b>	Dry cough <sup>a*</sup>
	Wet cough (productive) <sup>b</sup>
	Difficulty in breathing <sup>a</sup>
	Fast breathing or shortness of breath <sup>a</sup>
	Chest pain/pressure <sup>b</sup>
	Chest tightness <sup>a</sup>
	Headache <sup>b</sup>
	Red / watery / scratchy eyes <sup>a</sup>
<b>Systemic / whole body / non-respiratory</b>	Fever <sup>b</sup>
	Chills <sup>b</sup>
	Excessive fatigue <sup>b</sup>
	General muscle aches and pains <sup>b</sup>
	Skin rash <sup>a</sup>
	Abdominal pain <sup>b</sup>
	Nausea <sup>b</sup>
	Vomiting <sup>b</sup>
	Diarrhoea <sup>b</sup>
Loss of appetite <sup>b</sup>	

<sup>a</sup>: Symptoms that can be associated with both non-infective acute respiratory illness (ARill) and ARinf:

<sup>b</sup>: Symptoms that are more indicative of an ARinf

\*: Cough can also be an upper respiratory tract symptom (originate above the larynx)

**Supplementary Table S3: Viral pathogens causing clinical syndromes of acute respiratory infection (ARinf) in adults (adapted from Traenor J, 2016, Clinical Virology)(47)**

Main anatomical classification	Clinical syndromes of ARinf in athletes	Viral pathogens causing clinical syndromes (adults)			Refs
		Common (>25% cases)	Fairly common (5-25% cases)	Rare (<5% cases)	
Predominantly upper respiratory tract	1. Acute rhinitis and / or additional features of rhinosinusitis / rhinopharyngitis *: “Common cold”, “Coryza”, “viral upper respiratory infection”	<ul style="list-style-type: none"> <li>• Rhinovirus</li> </ul>	<ul style="list-style-type: none"> <li>• Enterovirus</li> <li>• Coronavirus</li> <li>• Respiratory syncytial virus</li> </ul>	<ul style="list-style-type: none"> <li>• Influenza Type A (children)</li> <li>• Influenza Type B</li> <li>• Parainfluenza Type 1</li> <li>• Parainfluenza Type 2</li> <li>• Parainfluenza Type 3</li> </ul>	(47, 48)
	2. Acute rhinosinusitis / rhinopharyngitis with systemic symptoms / signs **: “Influenza-like”, “flu-like”, “flu”	<ul style="list-style-type: none"> <li>• Influenza Type A</li> <li>• Rhinovirus (children)</li> </ul>	<ul style="list-style-type: none"> <li>• Parainfluenza viruses (children)</li> </ul>	<ul style="list-style-type: none"> <li>• Influenza Type B</li> <li>• Adenovirus</li> <li>• Respiratory syncytial virus</li> <li>• Human metapneumovirus</li> <li>• Coronavirus</li> <li>• Bocavirus</li> </ul>	(49-54)
	3. Acute pharyngitis /tonsillitis (with or without systemic symptoms / signs)		<ul style="list-style-type: none"> <li>• Influenza Type A</li> <li>• Influenza Type B</li> <li>• Parainfluenza Type 1</li> <li>• Parainfluenza Type 2</li> <li>• Parainfluenza Type 3</li> <li>• Rhinovirus</li> <li>• Enterovirus</li> <li>• Adenovirus</li> <li>• Epstein-Barr virus</li> </ul>	<ul style="list-style-type: none"> <li>• Respiratory syncytial virus</li> <li>• Coronavirus</li> <li>• Herpes simplex virus</li> <li>• Cytomegalovirus</li> </ul>	(47, 48)
	4. Acute laryngitis / laryngotracheobronchitis (with or without systemic symptoms / signs) ***: “Croup”	<ul style="list-style-type: none"> <li>• Parainfluenza Type 1</li> </ul>	<ul style="list-style-type: none"> <li>• Influenza Type A</li> <li>• Parainfluenza Type 2</li> <li>• Parainfluenza Type 3</li> <li>• Respiratory syncytial virus</li> <li>• Coronavirus</li> <li>• Adenovirus</li> </ul>		(47, 48)
Predominantly lower respiratory tract	5. Acute tracheobronchitis with or without systemic symptoms / signs)		<ul style="list-style-type: none"> <li>• Influenza Type A</li> <li>• Influenza Type B</li> </ul>	<ul style="list-style-type: none"> <li>• Parainfluenza Type 1</li> <li>• Parainfluenza Type 2</li> <li>• Parainfluenza Type 3</li> <li>• Measles virus</li> <li>• Adenovirus</li> <li>• Herpes simplex virus</li> </ul>	(47, 48)
	6. Acute bronchitis / bronchiolitis with or without systemic symptoms / signs)	<ul style="list-style-type: none"> <li>• Respiratory syncytial virus</li> </ul>	<ul style="list-style-type: none"> <li>• Rhinovirus</li> <li>• Adenovirus</li> <li>• Human metapneumovirus</li> <li>• Parainfluenza Type 3</li> </ul>	<ul style="list-style-type: none"> <li>• Influenza Type A</li> <li>• Influenza Type B</li> <li>• Coronavirus</li> <li>• Enterovirus</li> </ul>	(47, 48)

	1. Acute pneumonia	<ul style="list-style-type: none"> <li>• Influenza Type A</li> </ul>	<ul style="list-style-type: none"> <li>• Influenza Type B</li> <li>• Respiratory syncytial virus</li> <li>• Rhinovirus</li> <li>• Adenovirus</li> </ul>	<ul style="list-style-type: none"> <li>• Parainfluenza Type 3</li> <li>• Human metapneumovirus</li> <li>• Measles virus</li> <li>• Enterovirus</li> <li>• Coronavirus</li> <li>• Varicella virus</li> <li>• Epstein Barr virus</li> <li>• Cytomegalovirus</li> </ul>	(47, 48)
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**Alternate “historical” terminology for clinical syndromes:**

\*: Acute viral rhinosinusitis / rhinopharyngitis (common): Also referred to as “Coryza” / “Common cold” / “Viral upper respiratory tract infection (URTI)”

\*\* : Acute viral rhinosinusitis / rhinopharyngitis with systemic symptoms / signs: also referred to as “flu” or “flu-like” syndrome” / “Influenza-like” syndrome: NB The clinical syndrome can be associated with several pathogens not only influenza viruses. The World Health Organisation (WHO) influenza-like-illness case definition is as follows: “An acute respiratory infection with: measured fever of  $\geq 38\text{ C}^\circ$ , and cough; with onset within the last 10 days”. [REF: <https://www.who.int/teams/global-influenza-programme/surveillance-and-monitoring/case-definitions-for-ili-and-sari>]

\*\*\*: Acute viral laryngotracheobronchitis: also referred to “croup”

**Supplementary Table S4: Special investigations to diagnose possible complications in other organs / organ systems that are associated with selected pathogens causing acute respiratory infections (ARinf)**

Specific organ / organ system	Complications	Special investigations to diagnose complication/s
<b>Respiratory tract (regional complications)</b>	Pneumonia	<ul style="list-style-type: none"> <li>• Chest X-Ray</li> <li>• Lung Computerised Tomogram (CT) scan</li> </ul>
<b>Cardiovascular</b>	Myocarditis / pericarditis	<ul style="list-style-type: none"> <li>• Triad of tests (resting electrocardiogram (ECG), Echocardiogram, Serum troponins *)</li> <li>• Additional tests to consider: <ul style="list-style-type: none"> <li>○ 72hr Holter Electrocardiogram</li> <li>○ Cardiac Magnetic Resonance (CMR) Imaging</li> <li>○ Stress electrocardiography (post-acute infection before returning to sport)</li> </ul> </li> </ul>
	Thrombo-embolic disease	<ul style="list-style-type: none"> <li>• D-dimer</li> <li>• Vascular ultrasound</li> </ul>
<b>Nervous system</b>	Meningitis	<ul style="list-style-type: none"> <li>• Lumbar puncture</li> </ul>
	Autonomic dysfunction (e.g. POTS, IST)	<ul style="list-style-type: none"> <li>• Heart rate response to active standing or head-up tilt with blood pressure measurement</li> <li>• Heart rate variability (HRV)</li> </ul>
	Cognitive dysfunction	<ul style="list-style-type: none"> <li>• Neurocognitive testing (in conjunction with neurologist / neuropsychologist)</li> </ul>
<b>Renal / bladder</b>	Nephritis / Acute kidney injury	<ul style="list-style-type: none"> <li>• Serum urea and electrolytes</li> <li>• Glomerular filtration rate (GFR) - estimated and measured</li> </ul>
<b>Gastrointestinal</b>	Hepatitis	<ul style="list-style-type: none"> <li>• Liver function tests</li> </ul>
<b>Musculoskeletal</b>	Myositis	<ul style="list-style-type: none"> <li>• Resting serum creatine kinase (CK) activity</li> </ul>
	Rhabdomyolysis	<ul style="list-style-type: none"> <li>• Positive urine dipstix interpreted with urine microscopy</li> <li>• Resting and 48hr post exercise serum creatine kinase (CK) activity</li> <li>• Serum myoglobin concentration</li> </ul>

POTS: Postural orthostatic tachycardia syndrome; IST: Inappropriate Sinus Tachycardia

\*: May be raised in athletes post-exercise

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