



June 30, 2021

Met Mochenin Public Health ren COVID-19: Okkot ren fetanin asepan non imw ren neni mei kukkun

Eochueno fetanin asepanin non imw mei eochueno nonnomwun pochokunen aramas, inamwo ika mei wor COVID-19. An epwe eochuno ekkena kinikinin, ian mei menei, ina met epwe tongeni anisi ngeni angangen eppet fetanin chounon semwen.

Fetanin asepanin non imw mei menei okkot epwe anisi ne eochueno pwokiten chounon COVID-19 e napeno seni an fetan non parasen non asepan mei fis seni ach ngasangas, kapas, takir, pwucher, keen, mwor, me pwan mwesi. An epwe wor ewe ukukun 6 fit towawen nefinen aramas epwe tongeni anisi an esapw mecheres tori emon parasen awen emon, nge ekkun kukkun parasen non asepan mei ukukun minich me awa an epwe nomw non asepan anongonong won fetanin asepan, me pwan ekkoch sokkun mettoch mei fetan non asepanin non imw. Ngawen fetanin asepan non neni non imw, nge ei wor chommong aramas non, ina met epwe tongeni anapano efeiengawen chounon monun non asepan.

Me fan ikei ekkoch anen an epwe tongeni eochueno fetanin asepanin non imw ekkewe chon nemeni ekkewe watten imw me minneka ar ekkewe imw repwe tongeni fori. Ren unusen, repwe tongeni anisi ngeni an epwe 1) awateno ewe ukukun asepan mei nimenimoch mei tonong me nukun an epwe tonong non ewe system, 2) ofau asepanin non imw ngeni nukun, me 3) Nimeti non ewe asepan mei fetan non ewe imw ren ar repwe aea ekkoch sokkun moren asepan (e.g., ekkewe HEPA filter) an epwe awesano sokkun menun semwen mei wor non ewe asepan.

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- Awatenoi fetanin asepan mei nimenimoch seni nukun ngeni non ekkewe neni non imw.
- Fori an epwe chokukun aramas non ekkewe watten rumw. Ei epwe fori an epwe tongeni wor towawen nefinen ekkewe aramas me pwan watte nenien an epwe kus asepan.
- Fansoun meinisin ekkewe saipo ekan ofau asepanin non imwen ngaseno repwe mwokutukut chok fansoun mei wor aramas non ewe imw.
- Ekkewe nenien ofau asepanin non nenien kuk mongo repwe chok mwokutukut me fori ar angang ika pwe mei wor aramas non ekkei neni. Anomwu non kokkot an epwe chok sopwosopwo ne mwokutukut ekkei nenien ofau asepanin non imw ina mwo ika ese wor aramas non ekkei neni pwe epwe anisi fetanin asepan me nonewe neni ian mei wor aramas ian.

- Sukano asamwacho me asam ika pwe mei each ran me nukun chok ika pwe epwe osukosuka pochokunen ika efeiengaw ngeni nonnomwun ekkoch.
- Aea saipo pwe epwe tongeni anisi asepan an epwe tou non ekkewe asamwacho. Kosapw anomwu ekkewe saipo awenewenen mesen aramas an epwe enifi ngeni pwan mesen emon.
 - Ekiki ika ewe saipo epwe nomw ren ewe asamwacho pwe epwe tongeni enifau ewe asepanin non imw ngeni nukun imw.
 - Fetanin asepan mei nimenimoch ngeni mei ekis nimenimoch mei auchea epwe fis
 - Ika pwe ew air condition mei pacheta won ewe asamwacho, anganga pwe epwe anapano ewe asepanin nukun epwe tonong. Nengeni fichi pwe ewe nenien fetanin asepan mei suuk ika pwe ewe asepanin nukun mei each.
- Ika pwe epwe wor ekkesiwinin chon repwe nomw non ewe neni non ewe ran, awora fansoun ngaseta nefinen ekkewe mwicheich chon repwe nomw non ewe neni pwe epwe tongeni wor an epwe "kokusuno" asepanin non an epwe tou ekkewe monun semwen mei nomw non asepan. Ewe angangen kokusuno epwe tongeni pwonueta ika pwe epwe wor asepanin nukun epwe tonong (ika asepan epwe usun asepanin nukun) seni sokkun forun enienin asepan usun ren saipo non ewe system ren HVAC ika saipo ren ewe asamwacho mei suukuno. Kaworen asepan usun chok asepanin nukun epwe tongeni tawe ren ewe sokkun angangen enimenimen non asepan itan HEPA. Suukano asam me asamwacho, ika epwe tufich, mei pwan tongeni aninis ngeni ewe angang.

Met mochenin public health ren nimenimen non asepan an epwe eochueno asepanin non imw

Ew ika napseni fitu sokkun pisekin moromoren asepan mei fiti ewe HEPA mei tongeni an emon epwe aea non imw. Ekkei mei tongeni ar repwe niapeni ekkewe kukkun mettoch mei wor non asepan. Ei epwe tongeni ekisano ewe ukukun monun virus mei tongeni nomw ren aramas.

- Aea ekkewe HEPA minen moren non asepan mei tongeni epwe keki fetan pwe epwe anisi ewe system ren HVAC me pwan nupwen ese won ewe system ren HVAC. Ei epwe akkaewin auchea ngeni ekkewe neni epwe watte efeiengawen semwen me non usun ren nenien kangof ika ekkewe neni mei napengeni maso ren aramas mei wor rer COVID-19 me/ika mei mecheres ngenir ar repwe torir COVID-19. Tumwunochu ne anomwu ekkewe pisekin enimenimen non asepan ian epwe each me ian pwe esapw osukosuka ewe esepwan mei tonong me ewe exhaust epwe tongeni omwokutau ewe asepan me mwen epwe tongeni tonong non ewe system an HVAC an epwe tonong ngeni non space.
 - Ewe American Society ren Heating, Refrigeration, me Air-Conditioning Engineers (ASHRAE) ra awora ekkei tetenin aninisin nongonong: [Ourour ren Nimenimen Asepanin Non-Room an epwe Ekisano Covid-19 Non Asepanin Non Neniom We/Rumw](#)
 - Ewe Association ren Home Appliance Manufacturers (AHAM) awora iteiten ekkewe [Nimenimen Asepanin non Rumw mei Certified](#). Cheki ewe kokkun

touren nimenimen non asepan (CADR) omw kopwe kuna ika mei eoch ngeni ewe kinikin non ewe rumw ke achocho ngeni kopwe nimeni.

- Kosapw aea ekkewe nimenimen non asepan mei awateno ewe ozone, ika aea ekkewe sokkun pisek ra fen piin certify meren ewe California Air Resources Board (CARB): [Iteiten ekkewe Pisekin Nimenimen non Asepan mei CARB-Certified](#).
- Me nukun chok ika ewe angangen an epwe nofitifit asepan mei fat me non ew neni non imw, anomwu ewe pisekin enimenim nukanapen ewe rumw/neni ika arapakan ngeni ewe aramas chon wisen pworous nge esapw chon rongorong (awewe, emon sense non ewe rumwen sukun).
- Ekkewe sceintist non seni ewe University of Colorado Boulder Harvard University ra forata ew mettoch¹ an epwe ochufengeni ewe nimenimen non asepan me ewe koukun nenien fetanin asepan an epwe tongeni pwonuta ewe aneanin 3-6 asepan epwe ekkesiwin iteiten awa ren non ew rumwen sukun. Ekkewe mine ar ekkewe neni me chon omwokutu ekkewe neni ra tongeni angang fengen me emon chon angangen ewe HVAC ar repwe anisi ngenir ika pwe mei wor rer ekkei koukun me ifan usun an epwe tufichin pwonueta me rer. Ika pwe ewe system ren HVAC ese tufichin an epwe wor ika ewe koukun asepan mei tonong me non ewe asamwacho ika asam ese fat, mei tufich an epwe pwonueta ewe angangen ekkesiwinin asepan ren an epwe wor ekkewe minen enimenimen asepan ren HEPA pwe mei tongeni anisi an epwe pwonueta.

Met mochenin public health ren ekkewe system ren minen epwichikar, nenien fetanin asepan, me ekkewe air conditioning (HVAC)

- Fori pwe ekkewe system ren HVAC mei eoch an epwe angang me mei tongeni awora koukun asepanin non imw ngeni ewe koukun chochoon aramas repwe nomw non ew me ew ekkewe kinikin. [ASHRAE Standard 62.1](#) “mei afatata ir me ruw koukun me ifan ururun koukun asepanin nukun epwe tongeni wor an epwe tonong ngeni asepanin non imw ngeni fitu kinikinin non ewe imw.” Aea ewe aninis seni ekkewe mei angangeoch seni HVAC pwe epwe tongeni pwonueta angangan ren ewe system ren HVAC.
- Anapano moromoren asepan non ewe system ren HVAC ngeni ewe MERV 13 ika fen eochuseni ena. Ika fen, kuta meni sokkun koukun mei tufich ewe system mei mutata. Sousinenap seni HVAC mei tongeni aninis ne nengeni ika ifan ena koukun epwe tufich ne awateno angangen moromoren non asepan. Sopwosopwun anen met epwe fis mei pachenong
 - Cheki ekkewe nenien moren asepan pwe epwe nengenifichi ika pwe mei ukukeoch ngeni ewe moren non asepan.

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<https://docs.google.com/spreadsheets/d/1Gv0OhTNtK0esso883z1i03XimgOobjDTSeRzr25Uv dw/edit#gid=1836861232>

- Fori pwe asepan esapw fetan orun ewe moren asepan me onnukano an esapw wor pwangenon nefinen ewe mor me ewe imwan.
- Ekkesiwinin ekkewe moren asepan mei namwot epwe fis meren ewe kompeni chon wisen fori.
- Offeno sokkun demand-controlled ventilation (DCV) ewe epwe ekisano asepan mei wor anongonog won ewe koukun chon nomw non ika ewe tempichu fansoun mei wor chon nomw non. Anomwu ewe saipo an epwe nomw won "on" nge esapw ewe "auto", pun ina epwe omwokutu ewe saipo an esapw kouno, ina mwo ika ewe minen epwichikar ika ewe air-conditioning epwe men.

Chechenun non asepan

Non imw ukukun pesenin chechenun non asepan epwe wor (%RH) ren 40%-60% ina ukukun met epwe wor an epwe ekisano fetanin monun non asepan non imw ren

- An epwe wor sokkun nonomwun non asepan esapw awora monun virus me pwan ekkoch kukun monun non asepan².
- Fori pwe ekkewe nikinikin non asepan esapw fori an epwe apwasano mongen non pwotun aramas me metekewe mei auchea ngeni an epwe anisi ekkewe monun fiu ngeni semwen.
- Ekisano ekkewe mettoch soonon ekkewe monun virus mei nomw non asepan

Mei auchea pwe kopwe achocho ngeni kosapw non neni mei wosen kwasapwas nge esapw wor an epwe chechen asepanin non ewe neni. Sia mochen kopwe pworous ngeni emon seni ewe HVAC pwe epwe tongeni anisi ngonuk ifan usun omw kopwe fori ekkei sokkun nikinikin. Angangen nenengeni epwe tongeni fis ren ewe %RH monitor mei wor non chommongun neni.

Aninin Nongonong

1. American Society ren Heating, Refrigerating me Air-Conditioning Engineers (ASHRAE)

- ANSI/ASHRAE Standard 62.1-2019 - Ventilation ren Asepanin Non Imw mei Eoch <https://www.ashrae.org/technical-resources/ashrae-standards-and-guidelines>
- Imw ren pekin ameme ika kompeni <https://www.ashrae.org/technical-resources/commercial>
- Ei webpage mei pachenong ew taropwen ourour ren sokkun mettoch epwe fis <https://www.ashrae.org/technical-resources/covid-19-one-page-guidance-documents>
 - Rumwen lab
 - Kukkun Nenien Mongo Non Mwochomwochen Fansoun
 - Suuk-Sefanin Ekkewe Imw
 - Imwen Nonnomw
 - System ren HVAC Nenien Uttut

² <https://www.ashrae.org/file%20library/technical%20resources/covid-19/ashrae-d-co-rp3.pdf>

2. Center ren Tumwunun me Eppetin Semwen (CDC)
 - Nenien Sukun me Tumwunun Semirit: <https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/ventilation.html>
 - Imwen Ofes: <https://www.cdc.gov/coronavirus/2019-ncov/community/office-buildings.html>
 - Nenien fetanin asepan non ekkewe imw <https://www.cdc.gov/coronavirus/2019-ncov/community/ventilation.html>
3. Ewe Environmental Protection Agency (EPA)
 - [Nimenimen non Asepan, Filter ren HVAC, me Coronavirus \(COVID-19\)](#)
4. Ewe American Industrial Hygiene Association
 - [Ekisano Efeingawen COVID-19 Aea Control an Engineer](#)
5. Masowen ewe New York times ren auchean an epwe nafeoch nenien fetanin asepan
 - <https://www.nytimes.com/interactive/2021/02/26/science/reopen-schools-safety-ventilation.html>
6. Harvard/University of Colorado Boulder calculator ren kookun nimenimen non Asepan me fetanin asepan
 - <https://docs.google.com/spreadsheets/d/1Gv0OhTNtK0esso883z1i03XjmgOoibDTSeRzr25Uvdw/edit#gid=1836861232>

Toureochun taropwe: Ren ekkewe aramas mi ter ika aramas rese sinei fosun Merika, OHA mi tongeni aora taropwe non ew sokkun nikinik ar repwe weweiti, awewe ren fosun ekis, epwe mesemóng ekkewe mak, ika nikinikin noun mei chuun. Kokori ewe Center ren Health Information won 1-971-673-2411, 711 TTY ika COVID19.LanguageAccess@dhsaha.state.or.us

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