

The Mizoram Vol. 8
Pharmacists

2016 - 2017



**Pharmacists
for a Healthy India**
**Role in Prevention and
Management of
Diabetes**



A magazine published by Mizoram Pharmacists' Association
in collaboration with Mizoram State Pharmacy Council
in commemoration of National Pharmacy Week 2016



**Pharmacists for a Healthy India:
Role in Prevention
and Management of Diabetes**

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THE MIZORAM PHARMACISTS 2016-2017

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<p>Editor Dr. H. Lalhlemawia</p> <p>Joint Editors Esther Laldhawmi Hnamte Vanlalhluti</p> <p>Members F. Lalliantluanga President, MPA Lalhmingliana Gen. Secretary, MPA R. Rodingliana Finance Secretary, MPA Lalruatdika Varte Joint Secretary, MPA K. Thanzami Asst Professor Deptt of Pharmacy, RIPANS P.C. Lalawmpuii Asst Professor Deptt of Pharmacy, RIPANS</p> <hr/> <p>Typesetting, Layout and Graphics MáRina</p> <p>Printed at KL Offset Printers Upper Khatla, Aizawl</p>	<p>Message: Hon'ble Minister Lal Thanzara v Message: F. Lalliantluanga vii Editorial ix</p> <ol style="list-style-type: none"> 1. General Secretary's Report -Lalhmingliana 1 2. Hospital Pharmacy Practice -Dr. Esther Laldinpuii 7 3. Cefixime -R. Lalmuanawmi 12 4. Antibiotics -DIC, RIPANS 15 5. Music Therapy as Biblical Medicines -T.L. Rualawia 19 6. Cetirizine -P.C. Lalhmangaihzuali 22 7. Lalruanga Dawibur -Dr. H. Lalhlemawia 25 8. Ciprofloxacin -Saithangpuia 27 9. Thi neih vanga ná leh damdawi -DIC, RIPANS 29 10. Theitui leh damdawi ei pawlh chungchang -C. Malsawmtluangi 32 11. Cotrimoxazole -Lalremtluangi 35 12. Drug Information Centre, RIPANS -Dr. C. Zothanmawia 39 13. Gentamicin -K. Lalrinmuanpuia 43 14. Nu hnute tui leh damdawi -DIC, RIPANS 45 15. Metronidazole -Vanlalhruii 49 16. Na chhâwkna (NSAIDs) -Dr. C. Zothanmawia 51 17. Tigecycline -Judy Lalrengpuii 56 18. Pharmacy Practice chungchang -K. Lalremmawii 58 19. Steroids -Dr. C. Zothanmawia 61 20. Naupangte leh Vitamin -DIC, RIPANS 67 21. Generic leh Branded drugs -Dr. Laldhwsanga Pachuau 70 22. The Narcotic Drug & Psychotropic Substances Act 1985 -K. Zohmingmawii 75

2015-2016
MIZORAM PHARMACISTS' ASSOCIATION HRUAITUTE

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4	Zothanpuia	14	H. Lalnuntluanga
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10	Vanlalruatthanga	20	Rosiamliana Colney



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LAL THANZARA
MINISTER OF STATE
HEALTH & FAMILY WELFARE
MINOR IRRIGATION
INFORMATION & COMMUNICATION
TECHNOLOGY
GOVT. OF MIZORAM

MESSAGE

Mizoram Pharmacists' Association-in 'The Mizoram Pharmacists' magazine a tichhuak leh ta hi lawmawm ka tiin duhsakna sang ber ka hlan a. Hetiang magazine hlu leh tha, mi nazawng tana buatsaih theih hauh loh tur, damdawi lam thil leh mihring hriselna atana hriat tur pawimawh awmna hläwm buatsaih a ni hi ropui ka ti a. A chhiartu zawng zawngten hlawkna leh malsawmna dawn phah theuh se ka duhsak hle a ni.

Sorkar laipui policy - Prime Minister's Jan Aushadhi Yojna (mi rethei zawkte hamthat nana generic medicine store) ram puma kalpui mekah Pharmacist-ten mawhphurhna lain, hneh takin in kalpui mek hi lawmawm ka ti a. Dawr tam zawk hawn belh zel tum a ni nghe nghe a. Tin, medical reimbursement dik lo dap chhuahnaa in hmalakna avangin sorkar sum tam tak, awmze nei lova luang liam tur hum a ni thin hi thil lawmawm tak a ni bawk a. Heng baka in hnathawh that dangte pawh sorkarin a hmuh hmaih lo a ni.

Kan mipui tam berte hi damdawi lama hriatna leh fimkhur a tulna kawnga ngawng tak tak an ni a, zirtirna tha pek an ngai a. Pharmacist-te hi zirtir theitu tha berte zing ami in ni tih ka hria. Ram mipuite hriselna chawikanna kawngah theih tawpa ke pen fat fat turin ka sawmin ka ngen che u a ni.

Dated Aizawl
The 11th November, 2016


LAL THANZARA



F. LALLIANTLUANGA
PRESIDENT
MIZORAM PHARMACISTS' ASSOCIATION



MESSAGE

“Pharmacists for a Healthy India: Role in Prevention and Management of Diabetes”

Kumin 2016-ah National Pharmacy Week leh MPA General Conference a kawpa kan hmang leh thei hi a lawmawm ka ti a. He hun pawimawh kan hman theih nana min duhsaktu Principal Director, Health & Family Welfare Department leh Mizoram State Pharmacy Council chungah lawmthu ka sawi e.

‘The Mizoram Pharmacists Magazine, 2016-2017’, thu bengvarthlak, ropui leh ngaihnaawm tak tak awmna tihchhuah a ni leh thei ta hi ropui ka ti a. A buaipuitu Editorial Board thawhrimna a fakawm tak zet zet a, a chhiartu zawng zawng in hlawkpui hle ang tih ka beisei a ni.

Ram hriselna hnuk vuantu pawimawh berte zingah Pharmacist-te hi kan tel a. Damdawi siam dan, hman dan leh enkawl zui kawngah tumah kan chungah leng an awm lo. He kan nihna leh mawhphurhna hi tangkai lehzuala mipuiten an chhawr theih nan mahni hna theuhvah taihmak chhuah ila, kan hriatna leh thiamna pawh a tul ang zela tihmasawn turin tan ila sauh sauh ang u tih hi ka Pharmacist-pui zawng zawngte ka sawmna a ni e.


F. LALLIANTLUANGA



LALSAWMA PACHUAU
PRESIDENT
MIZORAM STATE PHARMACY COUNCIL



MESSAGE

Mizoram Pharmacists' Association leh Mizoram State Pharmacy Council ten 'The Mizoram Pharmacists' magazine kum 2016 atana an tichhuak leh ta hi ropui ka ti hle mai. He magazine lo puitlin theihna tura rilru, hun leh tha sengtu zawng zawngte inpekna a ropuiin a va fakawm thin em! Article tha tak tak ziaka thawhtute chungah Council member zawng zawngten lawmthu kan sawi mawlh mawlh a ngai a ni. Thuziak atang hian finna leh hriatna thar tam tak kan chhar belh thin a. An thiam, an finna min sem ve phal hi lawmthu sawina tham a tling tak meuh meuh.

Mizoramah hian Pharmacist-te hian ngaih pawimawh kan hlawh chho ve tial tial a, sorkar leh mipuite atang pawhin ngaihhlut kan hlawh sawt hle a. Tun dinhmunah pheih chuan thiamna lama Mizoram Pharmacy-in hmasawna a neih hi a ropui takzetin ka hria. Thiamna lamah Pharmacy profession hnuaia awm thei ang zawng zawng Mizote zingah nei an lo awm ta nual mai. Diploma atanga M.Pharm, Pharm.D leh Ph.D thlengin an awm ta fur mai hi hmasawna duhawm tak a ni a. Hun lo la kal zel turah Zofate tan mi tangkai leh hriselna huanga sang taka min hlangkaitute an la ni ngei ang.

The Mizoram Pharmacists chhiartuten nasa taka hlawkna chhar theuh turin duhsakna ka hlan a. MPA leh MSPC ten hmasawn zelin, tluang tak leh chak takin kal zel rawh se.

LALSAWMA PACHUAU

Editorial



The Mizoram Pharmacist 2016-2017 (Vol. 8) tihchhuah leh a ni ta hi a lawmawm hle mai. Hetianga Pharmacy thiamna lama hunbi neia tluang taka magazine tihchhuah a ni thin hi Mizoram Pharmacists' Association hruaitu te inpekna rah liau liau a ni a, kan office bearer leh executive members te kan chhuang takzet a ni.

He issue bik atan mi thahnem ngai Dr. C. Zothanmawia, Deptt of Pharmacy, RIPANS, Tv. MáRina, MSPC Office Assistant leh Ms. Esther Laldhawmi Hnamte, Registrar, Mizoram State Pharmacy Council te chungah lawmthu ka sawi takzet a, thahnem ngai taka an buaipui rah chhuah he magazine-ah hian a takin a lo lang thei ta a ni. Editorial Board member-te thawhrimna zawng zawng avangin lawmthu ka sawi bawke.

Article tha tak tak thawhtu zawng zawngte chungah lawmthu ka sawi a, in thiamna leh finna te mi dangte hriat theih tura in pho chhuak hi kan lawm takzet a ni.

He magazine-ah hian Pharmaceutical Sciences lam thiamna chi hrang hrang leh tuna kan mamawh tak mai, Clinical Practice leh Hospital Pharmacy lam te dah tel a ni a, ngun takin chhiar ila, hmasawna thlen ngei se tih hi Editorial Board-te duhthusam a ni a. Hriat fiah thiam loh lai leh hriat belh duh kan nei a nih chuan a ziaktute kan be zui zel dawn nia.

Mizoram State Pharmacy Council chungah kan lawm a, hetiangah lehkhabu tha tak mai min buatsaihsak thin avangin Pharmacy profession hi a thang zel a ni.

Mizoram Pharmacists' Association dam reng rawh se.


Dr. H. LALHLENMAWIA

PHARMACISTS OATH

I Swear by the code of Ethics of Pharmacy Council of India in relation to the community and shall act as an integral part of health care team.

I shall uphold the laws and standards governing my profession.

I shall strive to perfect and enlarge my knowledge to contribute to the advancement of pharmacy and public health.

I shall follow the system, which I consider best for pharmaceutical care and counselling of patients.

I shall endeavour to discover and manufacture drugs of quality to alleviate sufferings of humanity.

I shall hold in confidence the knowledge gained about the patients in connection with professional practice and never divulge unless compelled to do so by the law.

I shall associate with organizations having their objectives for betterment of the profession of Pharmacy and make contribution to carry out the work of those organisations.

While I continue to keep this Oath inviolated, may it be granted to me to enjoy life and the practice of pharmacy respected by all, at all times!

Should I trespass and violate this oath, may the reverse be my lot!

Lalhmingliana
General Secretary
General Headquarters, Aizawl



General Secretary Report

2015-2016 CHHUNGA MIZORAM PHARMACISTS' ASSOCIATION HRUAITUTE

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10	Vanlalruatthanga	20	Rosiamliana Colney

2015-2016 chhungin MPA meeting vawi 7 neih a ni a, Office Bearer's meeting vawi 1 leh Executive Committee meeting vawi 6 neih a ni.

National Pharmacy Week 2015: National Pharmacy Week 2015 chu a hnuai programme ang hian hman a ni:

NATIONAL PHARMACY WEEK 2015

PROGRAMME

A hmun : Aijal Club, Aizawl
A hun : 20th November, 2015 Dar 11:00 am
Chief Guest : Dr. K. Ropari
Principal Director, Health & Family Welfare Deptt.
Govt. of Mizoram

Inaugural Session

Chairman : Pu F. Lalliantluanga
President, Mizoram Pharmacists' Association
Hunserh : Pu Thangkima Ralte
Sr. Adviser, Mizoram Pharmacists' Association
Thusawi : Dr. H. Lalhlemawia
Vice President, Mizoram State Pharmacy Council
SL Sailo Pharmacy Award & Pharm D. Lawmpuina hlan by Chief Guest
Thusawi : Chief Guest
Refreshment

Scientific Session

Thupui : "Responsible Use of Antibiotics Saves Lives"
Paper-I : Pu Zothanpuia
Asst. Professor, Deptt of Pharmacy, RIPANS
Paper-II : Pu V. Lalremruata
Research Fellow, Deptt of Pharmacy, RIPANS
Lawmthu sawi : Pu F. Lalliantluanga
President, Mizoram Pharmacists' Association
Refreshment

National Pharmacy Week 2015 pual hian Doordarshan Kendra-ah Antibiotic chungchang sawihona (talk show) tihchhuah a ni a. He hunah hian Deptt of Pharmacy, RIPANS faculty-te aṅangin Zothanpuia, C. Malsawmtluangi, K. Lalremmawii, leh V. Lalremruata ten hun an hmang a ni. He week pual hian Champhai district-a MPA member-ten Pi C. Ramdinmawii (Asst. Director, Food & Drugs) hovin programme ṭha tak siamin TV local channel-ah damdawi chungchang talk show neih a ni a, Dr. C. Zothanmawia, C. Malsawmtluangi leh K. Lalremmawii ten an hmanpui a ni.

Kum 2015 chhung hian kan member pahnih (Dr. Esther Laldinpuii leh Dr. Lalremruata te chuan Pharm.D (Doctor of Pharmacy) an pass chhuak a. Anni hi Zofate zinga Pharm.D kan neih hmasak berte an nih avangin MPA chuan lawmpuina citation a pe a ni.

Kan member leh General Secretary ni mek Lalhmingliana chu Mizoram Civil Service (MCS)-ah a luh avangin MPA chuan lawmpuina thuziak citation a hlan a ni.

National Health Mission hnuaiia Pharmacist post ruakah B.Sc (Nursing) lak tumna awm nia hriat a ni a, hei hi MPA chuan na takin a dodal a. Sorkarah representation lehkha theh luh a ni.

Pharmacist supervision guideline ruahman chhinna chu Drugs Controller, Mizoramah pek luh a ni.

December ni 18, 2015-ah Mizoram State Pharmacy Council office-ah MPA leh MGPA (Mizoram Government Pharmacists' Association) joint meeting neih a ni a. He hunah hian recruitment rules, pharmacist post ruak hnawh khah, pharmacist pay tihsan leh drug store supervision chungchangte sawiho a ni a. A ṭul anga hma lakho zel ni se tih a ni.

The Mizoram Pharmacists 2016-2017 magazine chu buatsaih lehin tihchhuah a ni a, Editorial board-te chu:

Editor : Dr. H. Lahlenmawia
Joint Editor : Vanlalhluti & Esther Lalduhawmi Hnamte
Members : K. Thanzami
P.C. Lalawmpuii
MPA Office Bearers (Ex-officio)

Kum hnih dana kan neih tawh ṭhin MPA General Conference 2016 chu National Pharmacy Week 2016 nen hman kawp leh a ni a, hetiang hian hun hman a ni:

MIZORAM PHARMACISTS' ASSOCIATION



**GENERAL CONFERENCE
CUM
NATIONAL PHARMACY WEEK 2016**

Theme: 'Pharmacists for a Healthy India; Role in Prevention and Management of Diabetes'

PROGRAMME

Time : November 11, 2016 Dar 11:00 am
Venue : Tourist Lodge, Chaltlang
Chief Guest : Pu Lal Thanzara
Hon'ble Minister
Health & Family Welfare Department
Compere : Mr. Rosiamliana Colney & Ms. Rosalyn Lalmuanpuii

FIRST SESSION

Registration : 10:30 am - 11:00 am
Inaugural : 11:00 am - 12:00 pm
Devotion : Upa H. Thankima
Asst Drugs Controller (Rtd), Adviser MPA
Presidential Address : Mr. F. Lalliantluanga, President, MPA
Presidential Address : Mr. Lalsawma Pachuau, President, MSPC
Release : 'The Mizoram Pharmacists Annual Magazine 2016' and
MSPC Official Website by Chief Guest
Speech : Chief Guest
Release : 'Pharmacists' Manual on Drug Storage (A-C)'
by Mr. Lalsawma Pachuau, President, MSPC
S.L. Sailo Pharmacy Award : Mr. Sanglura Sailo
Vote of Thanks : Ms. Esther Lalduhawmi Hnamte, Treasurer, MPA

BREAK

SECOND SESSION

- Rorel & Inthlan : 1:00 pm - 3:00 pm
- Chairman : Mr. F. Lalliantluanga, President, MPA
- Report : Mr. Lalhmingliana
General Secretary, MPA
Mr. R. Rodingliana
Finance Secretary, MPA
- Sunna : Mr. Lalhmingliana
General Secretary, MPA
- Seminar : Pharmacists for a Healthy India; Role in Prevention
and Management of Diabetes by Mr. Zothanpuia
Asst. Proffesor, Deptt of Pharmacy, RIPANS
- Rorel : Agenda
1. MPA Annual Fee chungchang
2. Supervision Rate chungchang
3. MPA senior member-te chawimawina
thilpek hlan chungchang
4. Champhai Sub-Headquarters siam dilna
5. AOB

INTHLAN

- Official Nomination : Mr. Lalmuanawma
Dr. C. Zothanmawia
Ms. K. Lalremmawii
Mr. Timothy Thanchungnunga
Mr. C. Lalhmachhuana
Ms. Esther Lalduhawmi Hnamte
Mr. Lalruatdika Varte
Mr. R. Vanlalruata (RIPANS)
Ms. R. Lalawmpuii
Mr. Rosiamliana Colney

DINNER

NPW 2016 hi Mizoram State Pharmacy Council chuan min sponsor-sak a ni.

Kum 2015-2016 chhunga auditors turin Lalvuana, Head Pharmacist leh C. Laldinpuii, Asst Director, Food & Drugs Administration te ruat an ni a. Hetiang hi tuna kan sum dinhmun a ni:

Audit period	:	9.12.2014 - 31.10.2016
Opening Balance	:	₹ 1,15,732
Total income	:	₹ 4,28,150
Grand total income	:	₹ 5,43,882
Total expenditure	:	₹ 2,77,710
Balance in hand	:	₹ 2,66,172

Kumin (2016) hian kan association-in chhiat kan tawh nasat avangin member tinte hnenah Special Fund 2016 ₹ 500 ðheuh khawn a ni.

S.L. Sailo Pharmacy Award chu kum tin Mizorama Pharmacy degree zirna kan neih chhun RIPANS aṅanga Mizo pass chhuak tiṅha ber hnenah pek ṅhin a ni a. Kumin hian Diploma Pharmacy zirna kan neih chhun Laithangpuii College of Pharmacy aṅangin Mizo pass chhuak tiṅha ber hnenah kan hlan tel bawk a ni. Heng mite hnenah hian S.L. Sailo Pharmacy Award 2016 chu hlan an ni:

1. Judy Lalrengpuii, RIPANS
Pharmacy Student of the Year (Degree) 2016
2. C. Lalnunpuia, Laithangpuii College of Pharmacy
Pharmacy Student of the Year (Diploma) 2016

Kumin chhung hian kan member mi pakua laiin min boralsan a, MPA chuan paw kan tiin kan ui takzet a, an chhungte Pathian awmpuina leh thlamuanna kan dilsak a ni. Kan member boralte hi thlahna pangpar hlanin Rs. 20,000/-in kan rál a ni. Member boral Tate:

NG. Tawnga (17.12.2014)
F. Lalmama (30.1.2015)
Zadingluaia Lushai (23.5.2015)
K. Laldawngliana (16.9.2015)
A. Khocho (3.11.2015)
C. Darkunga (18.12.2015)
Lalzuali (9.1.2016)
A.C. Zohmangaiha (4.2.2016)
Challiankhuma (3.7.2016)

♦♦♦♦♦ ♦ ♦♦♦♦♦

Dr. Esther Laldinpuii, Pharm.D (PB)
Clinical Pharmacist
Greenwood Hospital, Aizawl

HOSPITAL PHARMACY PRACTICE

Pharmacy kan tih hian damdawi siamchhuah a nih aṅanga a enkawl te, natna enkawlna atana hman te, damloa a thawh dan vil zui te leh a nih tur ang taka hman a nih leh nih loh enzui te hi a huam vek kan ti thei ang. Hospital pharmacy leh pharmacy practice kan tih hian heng hna hrang hrangte hi a keng tel vek a ni. Chuvangin, he hna enkawltu (Pharmacist)-te hi kan pawimawh em em a, mipuite hriselna hi pharmacist-te chungah thui tak a innghat a ni. Tichuan, Hospital Pharmacy chu eng nge a nih chiah a, Pharmacist-ten chutah chuan eng nge kan pawimawhna chiah, tih kan thlirho ang.

Hospital pharmacy hi eng nge ni?

Hospital pharmacy hi damdawi-ina department pakhat, damdawi chungchanga thiamna nei leh tlingten damdawi an enkawl a ni mai awm e. 'Damdawi enkawl' tih hian a lei (procurement) te, mamawh anga siam (manufacture) te, a ṅul dan anga semchhuah (distribution) te leh damlote hnena a hmanna tur dik taka hman a nih theih nana pek (dispensing) te a

huam a ni. Hei hian a tum ber chu damlote dam nan, damdawi chu a nihna tak leh ṅangkaina taka hman a nih theih nan a ni. Hei hi 'Pharmaceutical care' tiin a sawi theih bawk.

'Pharmaceutical care' kan tih hi thil chi thum inkawp a ni a, chungte chu:

1. Hospital chhunga hnathawk dangte nen damlo enkawlna kawnga thawhhona ṅha zawk neih.



2. Damdawi ÷ha leh ÷ha lo enfiah a, damlo tana damdawi ÷ha leh hmantlak ngei pek.

3. Damdawi hman dan dik leh fim-khur a ngaihna chungchanga damlo zirtirna pek.

Pharmacist mawhphurhate:

Hospital-a pharmacist mawhphurhate han tarlang ila:

1) Pharmaceutical care a nihna tur ang taka kalpui.

2) Hospital pharmacy hnathawh hmasawna ngaihtuah.

3) Pharmacy staff-te damdawi en-kawlna chungchanga hma an sawn zel theih nana zirtirna pek leh fuih an ngaih huna fuih te.

4) Hospital-a hnathawktu dangte nena thawhhona ÷ha neih.

5) Pharmacy a hmanraw mamawh leh ÷ulte (damdawi ni lo) lei leh hralh chungchangah ruahmanna fel tak siama kalpui.

6) Damlo enkawlna kawnga hmasawna leh hlawhtling zawka kalpui a nih theih nana doctor leh hospital hnathawktu dangte thawhpui.

7) Pharmacy chungchanga inrel-bawlina (administration) te, damdawi lei leh pekchhuah chungchangah te record fel taka vawn ÷hat.

8) Hospital-a department dangte nena thawhhona ÷ha neih theih dan tur ngaihtuah.

Pharmacy Practice:

Pharmacy practice-in a tum ber chu ram leh mipuite tana a ÷ha thei ang ber

tura natna enkawl nana damdawi leh a kaihhnawih thil te enkawla pek kan ti thei ang. Hei hian mipuite chu hriselna ÷ha zawk nei a, an natna lak ata chhanhimna kawnga puih a, hriselna ÷ha nei tura hnathawh a ni. Tin, hriselna kawngah Pharmacist-ten hriselna kawnga thawktu dang (healthcare professionals) te nen thawhhona ÷ha tak an nei tur a ni bawk.

Pharmacy practice hlawhtling taka kalpui nana thil pawimawh deuh deuh te chu:

- *Purchasing (damdawi lei chungchang)*
- *Inventory control*
- *Storage*
- *Dispensing and distribution (a sem chhuah/pek chhuah)*
- *Drug information and patient counselling*

Damdawi lei chungchang (Purchasing)

Damdawi lei dawna thil hriat ngai leh tihur ÷ul hmasate:

- ▶ Damdawi hming, damdawi siamtu company hming leh address
- ▶ Damdawi chungchang kimchang zawka tarlan e.g: a chak zawng (strength, damdawi chi khat nge damdawi dang nena chawhpawlh (single or combination drugs)
- ▶ Damdawi leina tura dilna thehluh
- ▶ Damdawi receipt mumal taka siamtir leh vawn ÷hat
- ▶ Damdawi/Bungrua lei kir let leh (return) a awm chuan chiang taka record leh receipt siam

Damdawi leh a kaihnawih damlo enkawlina atana hmante hi a lei dan kawng thum a awm a, chungte chu:

- 1) A siamtu company emaw wholesaler hnen aṅanga lei (direct purchase)
- 2) A lei thei tur zawna (tender) chhuah a, chuta a lei tur thlante aṅanga lak chhawn.
- 3) Hmanhmawh thila veng chhung/ram chhunga retail dawr aṅanga lei

Inventory Control:

Hei hian a tum ber chu damdawi/ bungraw leiho chu endik a, a nih tur ang tak leh a hlutna (entirnan, a man zat a inmil em, orderna lehkha nen a inmil em, etc.) dik taka lei a ni em tih zirchianna a ni. Inventory hi heng a hnuai mi hoah hian a innghat thei:

- ▶ Bungaw leina hlat zawng (distance) azirin
- ▶ A vawn ṭhat dan azirin.
- ▶ Lei aṅanga dawn (receive) hun chhung azirin
- ▶ Inhlanchhawn (transport facilities) dan azirin

Inventory control ṭangkaina leh hnathawhte:

- i) Kan bungrua/damdawi inang reng man tlawm zawka lei te, mamawh zat dik tak lei te leh a hun bi dik taka lei
- ii) Bungrua hman loha dahṭhat (stock) tihtlem leh pawisa fai (cash)-a bungraw lei tihtlem
- iii) Sum leh pai dinhmun, lei leh hralh te leh inhlanchhawn (transport) hun dik tak hre thei tura thlirlawk (forecast)

iv) Ziaka thil engkim felfai taka vawn (records).

Inventory control theih dan kawng hrang hrangte:

- i) ABC Method
- ii) VED Analysis
- iii) Lead Time
- iv) Inventory Carrying Cost
- v) Safety Stock
- vi) Minimum Stock Level
- vii) Maximum Stock Level
- viii) Economic Ordering Quantity
- ix) Reorder Level

i) ABC Method (Always Better Control): Hemi method-ah hian damdawi chu hlawm thumah ṭhen a ni a, hetiangin-

Class A : Damdawi to (costly) ho
 Class B : Damdawi to lutuk lo (medium) ho
 Class C : Damdawi tlawm (cheap) ho

Class A: Items 10-20% hi he mi chhungah hian a awm tlangpui a, chu chu 70-80% sum hmanral a huam thei a ni. Heng items ho hi stock tam reng ngai leh pek chhuah hnem tak an ni.

Class B: Items 10-20% a ni thei, mahse sum hmanral (expenditure) hi 15-20% a ni thung.

Class C: Items 60-80% a ni thei, sum hmanral (expenditure) hi 5-10% a ni thung. Items pek chhuah tam an nih loh avangin stock tam lutuk an ngai lo.

Group	% of Items	% of Costs
A	8	75
B	25	20
C	67	5

ii) VED: VED tih chu Vital Essential Desirable tihna a ni a. Hetah hian damdawi/bungrua chu hmanna leh mamawh an nih dan anga then hran an ni.

Vital: Bungraw mamawh leh tul zual bik, a tel loa hnathawh chhonzawm theih loh emaw, hun eng emaw chen hnathawh tikhaihlak thei ho sawina a ni. A man a to avang hian lei nan hun rei mamawh thin a ni. Damdawi mamawh leh engtik lai pawha neih reng ngai ho tiin kan sawi thei mai awm e. Entirnan, Crocin, Dolo-650, Pacimol, etc.

Essentials: Hei pawh hi damdawi/bungraw mamawh reng a ni. Amaherawhchu, Vitals ho aiin an pawimawh dan a nep deuh thung. Man tlawm zawk leh hmuh mai theih a nih avangin a leiah harsatna a awm lem lo bawk. Entirnan, Calpol, Medomol, etc.

Desireable: Mamawh tho ni mah se, a awm loh pawha thil danga thlak (substitute) mai theih a ni. A awm loh pawha harsatna thlen lo tura ngaih an ni. Entirnan, Lanol, Dolopar, etc.

iii) Lead Time: Hei hi bungrua/damdawi lei tura order pek atanga a leitu kuta a thlen nana hun a duh rei zawng sawina a ni.

iv) Inventory carrying cost: Hei hian dahthatna man (storage cost) te, insurance leh tax te, hnathawktu hlawh te leh chhan hrang hrang avanga hloh (waste) te a huam a ni.

v) Safety stock: Damdawi/Bungrua chu mamawh huna hman mai tur a awm theih nan hman lai mek bakah dahthat chin neih ngei ngei tur a ni a. Hei hian bungrua/damdawi chatlaka awm mai tur a veng thei a ni. Chu chu safety stock tih a ni.

vi) Minimum stock level: Bungrua chu kar khat chhunga hmanral zat atang te, a thar lei nana hun a duh rei chhung azir te leh a thar lei ngun dan (reorder) azir te, a stock awm zat tlem thei ber tur bithliah a ni.

Minimum stock level=reorder level- (normal consumption per week × average time taken to receive fresh supply).

vii) Maximum stock level: Bungraw stock tam lam neih theih zat tur bithliah sawina. A bungraw nihphung azirte bakah hman ral dan azira siam a ni.

viii) Re-order level: Hei hi bungraw lei (order) leh hun tur sawina a ni. Minimum stock level a pelh hreta order hi siam leh thin tura duan a ni. Hei hian damdawi chatlak awm thei tur a veng thei a ni.

Inventory control awlsam tak leh felfai zawka kan tih theih nan hian Business Accounting Software rintlak leh tha tak hman hi a pawimawh em em a, hemi hmang hian a chungang method hrang hrang kan sawi takte hi a nihna tur dik tak leh felfai takin a kalpui theih a ni.

Storage

Damdawi hi uluk taka vawnthat dan tura a siamtuten an duan ang taka enkawl a tul takzet a ni. A nih tur ang taka vawnthat a nih loh chuan a chakna (potency) a hloh theih mai bakah chemical dang hlauhawm takah a insiam thei a ni. Pharmacist chuan damdawi chu hmun vawt (cold)-a dahthat chi te, hmun dai (cool)-a dahthat chi te uluk takin a thliar hrang tur a ni. Tin, kan damdawite uluk taka then hran an nih loh chuan mamawh huna hmuh mai a harsa thin a ni. A hnuaia mi ang hian kan damdawite chu kan then hrang thei ang:

- ▶▶ A siamtu company azirin
- ▶▶ Damdawi hnathawh/hmanna azirin
- ▶▶ Brand name a alphabetical indawt danin
- ▶▶ Generic name a alphabetical indawt danin

**Dispensing and distribution
(A semchhuah/pekchhuah):**

Pharmacist hna pawimawh ber pakhat chu damdawi pek chhuah leh sem chhuah hi kan ti thei ang. Damdawi hmanna tur dik tak leh hman dan tur dika hman a nih leh nih loh thui takin a hril thei a ni. Damdawi pek chhuah dan thenkhat han tarlang ila:

Individual prescription order system: Doctor-in damlo damdawi a chawhna lehkha (prescription) aṅanga damdawi pek chhuah sawina. Hei hian inpatient leh out-patient a huam vek a ni.

Complete floor stock system: Hei hian damdawi-ina damlo awm hna damdawi pek chhuah a kawkung. Hetah hian damdawi hi nursing station kaltlanga sem a ni thin. Chi hnihah a then theih, hetiangin:

Charged floor stock system: Damdawi chu nursing station-ah damlo mamawh tur hriatsa aṅanga dahkhawm a ni a, chuta ṅang chuan damlo malin a mamawh tur anga then hrana pek chhuah leh a ni. Charge tih hian damloin a man a pek tur tih a entir.

Non-charged floor stock system: Hospital-a nursing station theuhin a mamawh, a ṅul anga damloten man chawi hran tawh lova hman theiha dahkhawm sawina a ni ber.

Drug information and patient counseling

Damdawi chungchang a kimchang thei ang bera hrilhfhahna tiin a sawi theih ang. Hengte hi a huam:

- ▶▶ Damdawi chu eng nge a nih?
- ▶▶ Eng atana hman tur nge a nih?
- ▶▶ A hman zat tur dik tak (dose) hrilhfhah
- ▶▶ Damdawi inhal thei (drug interaction) a awm em?
- ▶▶ Side effect awm thei hrilhhriat
- ▶▶ A vawṅthat dan tur
- ▶▶ A ei hun bithlhah leh ei/pekna (route) tur hrilhfhah



Healthy people are those who live in healthy homes on a healthy diet; in an environment equally fit for birth, growth work, healing, and dying... Healthy people need no bureaucratic interference to mate, give birth, share the human condition and die. – Ivan Illich

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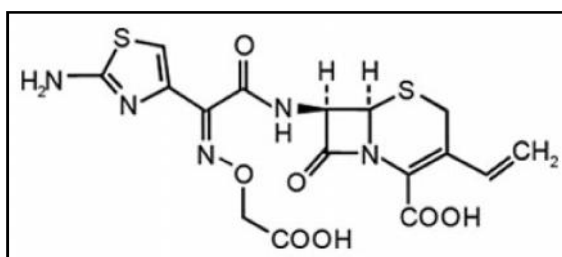
CEFIXIME

Generic name: Cefixime

Brand name: Suprax, Raxin, Pancef O, Alfixime, Almocef, Ofloximix, etc.

Eng atana hman nge?

Cefixime hi antibiotics, Cephalosporin 3rd generation class ami a ni a, damdawi dang Ornidazole (antimicrobial/antiprotozoal) nen inkawpin a awm bawk. He damdawi hi bacteria natna hrikin a thlen natna, bengkherh (otitis media), dadu (gonorrhoea), sinus hliam/vung (sinusitis), tonsil natna (tonsillitis), hrawk vung/hliam (pharyngitis), pneumonia, khawsikpui (typhoid fever), zunkawng vung/hnai (urinary tract infection) enkawlna atana hman a ni tlangpui. A damdawi hi schedule H1 zing ami niin, fimkhur leh uluk takin, doctor-in a chawh ang chauha ei tur a ni.



Engtin nge hna a thawh?

Cefixime hi bacteria natna hrikin a thlen natna chi hrang hrang enkawlna atan a tha hle a. He damdawi hi kan taksaah penicillin antibiotic nen an hnathawh dan a inang a. Antibiotic hmasa ber penicillin-in natna hrik an beihna proteins-ah tho a bet a, chu chuan natna thlentu bacteria lo insiam zel tur kha (Cell wall synthesis) lo dangin an than len zelna tur pawh kha a lo tiṭhuanawp ta ṭhin a, chumi hnuah chuan natna thlentu ber bacteria-te kha an lo thi ta ṭhin a ni.

Eng angin nge kan hmuh ṭhin?

Cefixime hi a mum (tablet), a mum ṭhial/tihsawm chi (chewable tablet), a tui inchi (oral suspension) leh laihren (capsules)-in lei tur a awm a ni.

Engzata ei tur nge?

Puitling tan: Cefixime dose pangngai chu 400 mg-in ni khatah wawi khat a ni a. Hei hi wawi khat a 400 mg-a eiin emaw, ni khatah wawi hnihin 200 mg-in darkar sawm pahnih danah ei tur a ni. Ni khatah hian 400 mg aia tam chu ei loh tur a ni. Natna

azirin damdawi ei hun chhung hi ni 7-14 a ni tlangpui a, damlo natna azirin a aia rei pawh a ni thei bawk.

Naupang tan: Cefixime hi naupang taksa rihna azirin pek thin tur a ni a. Thla 6 aṅanga kum 12 inkar, kg 45 aia zāng tan chuan 8 mg/kg-in ni khatah vawi khat emaw, 4 mg/kg-in ni khatah vawi hnih, darkar 12 danah pek thin tur a ni. Naupang kum 12 chin chung lam emaw, kg 45 aia rit a nih cuan 400 mg-in ni khatah vawi khat pek thin tur a ni.

Upa lamte tan: Cefixime hi upa lamte tan a ei zat tur hi puitling dose pangngai anga pek mai tur a ni a, tihdanglam kher a ngai lo.

Side effects:

He damdawi ei hian mi thenkhatah chuan kawṭhalo, pum na/nuam lo, lu na, thak, vual, luak chhuak, khawsik luhai, vung te a thlen thei a. Amaherawhchu heng hi a thleng ngei ngei lo a, taksa tan a pawh em em kher lo thei bawk. Chutih rual chuan tawrh hrehawm phah khawp hial pawhin a side effect hi a nasa thei a, chungah chuan a rang lama doctor-te pan vat thin tur a ni. Hmeichhe naupai lai tan chuan a ṭul dan azirin ei a him a, amaherawhchu naute hnute pe lai tan erawh chuan he damdawi hi hnute tuiah a tel theih avangin naute tan a ṭha lo thei a, ei loh theih hram chuan ei loh a him ber.

Damdawi dang nen ei pawlh a him em?

He damdawi hi BCG vaccine emaw, typhoid vaccine lak lai chuan ei loh tur a ni. Heng damdawi - estradiolte, probenecid-te leh warfarin nena kan ei kawp a nih chuan kan taksa tan a him tur chinah a awm em tih kan thisen lamte test-in kan vil uluk hle tur a ni.

Kal ṭha lo leh dialysis a hman dan tur:

Cefixime hi kal ṭha lo, CrCl 60 mL/min aia tam tan chuan a dose pangngai 400 mg-in ni khatah vawi khatin emaw, ni khata 200 mg-a vawi hnihin pek tur a ni a. Damlo kal ṭha lo CrCl 21-60 mL/min-ah chuan ni khatah 260 mg-a pek tur a ni. Damlo CrCl 20 mL/ml tan chuan a dose hi ni khatah 200 mg-in ni khatah pakhat ei thin tur a ni. Dialysis ti lai damlo tan chuan a mumin emaw, a mum ṭhial chiin ei loh tur a ni a, a tuiin 200 mg/5 ml a siam, 6.5 ml-in ni khatah vawi khatin emaw, 00 mg/5 ml-in ni khatah vawi hnih 2.6 ml-a ei thin tur a ni.

Cefixime chungchanga hriat tur pawimawhte:

Cefixime hi antibiotics a nih avangin doctor-in ei tur zat an tih chu natna hrik (bacteria) thai boa damdawiin a thawh tur ang tak a thawh theihna turin ei zawh ngei ngei thin tur a ni. Dam tawha inhriat avanga damdawi ei chawlhsan ringawt hian natna lo chhuah lehna chance a tisingin resistance hial a thlen theih thin avangin fimkhur a ṭul hle a, hetiang a thlen chuan kan taksaa natnate lakah hnathawh awmze nei lovin damdawi kha a awm phah thei. Pum nuam lo a thlen theih avangin pum

ruaka ei loh hram thin tur a ni a. A ei hunbi-ah kan ei hmaih palh a nih chuan hriat chuah veleh ei leh vat thin tur a ni a, kan ei leh hun tur nen a inhnaih viau emaw a nih chuan ei kher a ngai tawh lo a, mum 2-a ei kher loh tur a ni. Damdawi hi hmun hnawng leh lum lutukah dah loh tur a ni a, room temperature 20-25 degree celcius- a vawnthat tur a ni. Damdawi hi a tui a nih chuan ei dawnah uluk taka thin tur a ni. Damdawi hman tawh loh leh thi tawh chu paih vat tur a ni.

Reference: www.micromedexsolutions.com



10 PHARMACY QUOTES THAT WILL MAKE YOU RETHINK THE PROFESSION

It is easy to get a thousand prescriptions, but hard to get one single remedy.

– *Chinese Proverb*

Rogue Internet pharmacies continue to pose a serious threat to the health and safety of Americans. Simply put, a few unethical physicians and pharmacists have become drug suppliers to a nation. – *Dianne Feinstein, US Senator for California*

Alcohol, tobacco, and pharmaceutical drugs are legal, but they can hurt a lot of people. – *Ziggy Marley, reggae musician*

I entered the work force cleaning breast pumps at a pharmacy! It was a part-time gig while I was at school... no interview required.

– *Chris Hemsworth, Australian actor*

Water, air, and cleanness are the chief articles in my pharmacy.

– *Napoleon Bonaparte, 19th-century French military leader and emperor*

When somebody follows you 20 blocks to the pharmacy, where they watch you buy toilet paper, you know your life has changed. – *Jennifer Aniston, actress*

Always laugh when you can. It is cheap medicine.

– *Lord Byron, 19th-century English romantic poet*

He who takes medicine and neglects diet wastes the skill of his doctors.

– *Chinese proverb*

Rule #1 of life. Do what makes YOUR area manager happy. – *Twitter, @MrDispenser*

Poisons and medicine are often the same substance given with different intents.

– *Peter Mere Latham, 19th-century English physician and educator*

ANTIBIOTICS

Damdawi zingah hian antibiotics tih hming hi kan hriat lar berte zing ami a ni awm e. Antibiotics hi chi hrang hrang tam tak a awm a, damdawi kan hman mekte zingah hian natna enkawlna atana țangkai ber zing ami a ni. Antibiotics chungchang hi tawite, hriat thiam awlsam thei ang turin tarlan i han tum teh ang.

Anti (kalh/do) leh biotics (thilnung) tih thu belhbawm antibiotics tih awmzia chu kan taksaa natna thlentü, nunna nei, natna hrik dotu tihna a ni a. Kan taksaa natna thlen thei natna hrik, mit lawnga hmuh theih loh, nunna nei ve si hi chi hrang hrang - bacteria, virus, fungi, amoeba, protozoa te an ni a. Hetiang natna thlen theitute hnathawh doletna atan hian damdawi țangkai tak antimicrobial agent hman țhin a ni a, antibiotic chu antimicrobial agents zing ami, bacteria avanga natna thlentü enkawlna atana hman țhin a ni.

Kum 1900 chho bawr vel, khawvel pum ang pawha damdawi thiamna a la hniam ve hle lai leh natna enkawlna lam an beih nasat em em lai khan 1928-ah British scientist, natna hrik bacteria zirbingnaa mithiam (bacteriologist) Sir Alexander Fleming chuan London damdawiin pakhata a hnathawhna (laboratory)-ah natna hrik chanchin a zir mek laiin bacteria hrik a țotirna petridish (darthlalang thleng dar tē)-ah chuan thil hmuar leh bäl a hmu tel a. A hnathawh tichhetu ngeiawm tak anga a ngaih laiin chu thil hmuar chu a han zirchian nak chuan a bul velah natna hrik, bacteria țo an lo awm reng reng lo tih a hmuchhuak ta a. Chu thil hmuar (mould) chu thil nung ve tho *Penicilium notatum* (Penicillin) a ni a, hei hian



ngaihtuahna thar pein, natna hrik dang pawh a that thei tih a hmuhchhuak ta zel a. Hun a lo kal zel a, kum 1941-ah chuan mihring natna enkawl na atana hman theih turin sawngbawl a ni a, a hunlai a natna tihbaiawm tak takte chu enkawl dam theih a lo ni ta a ni. Damdawi anga siam a nih hnuah Penicillin chu thil mak tiin 'miracle penicillin' tiin a hming an vuah hial a. Indopui 2-na a lo ni chho bawk nen, indonaa hliam sipai tam tak nunna chhantu a ni a, khawvel hmun hrang hrangah hman a niin khawvela antibiotic hmasa ber chu tun thleng hian a la hlu em em reng a, antibiotic chi thar hmuhchhuah tumin damdawi company lian ten an la bei chhunzawn ta zel a ni.

ENGVANGIN NGE KAN HMAN?

Mihringte hi kan velah hian natna hrik (bacteria)-te hian min hual vel reng a. Kan boruak hip luhah te, kan ka leh hnar, vun leh kan kawchhung, kan rilah te pawh bacteria hi an awm reng a. Kan taksa raldo khawl (immunological system) hian heng lak atang hian min veng reng thin a, mahse ven theih loh chin a neih hunah bacteria-te chuan kan taksa remchang lai apiang atangin natna min thlen ta thin a ni. Chutiang bacteria avanga natna chi hrang hrang tam tak - mitna (conjunctivitis) atanga thihna hial thlen thei pneumonia, septicemia te damdawi tha em em chu antibiotics hi a ni a. Mihring natna azirin antibiotic hman tur bik a awm hran theuh a, tin damlo pakhat antibiotics pakhat aia tam a hman a ngai fo thin baw. Antibiotics hi a tlangpuiin a eia ei chi a ni a, damlo serious deuhah chuan inchiu a ngai baw thin. Tin vuna hnawih chi te, mit leh bengal thlawr chi te pawh a awm baw.

ENGTINNGE HNA A THAWH?

A damdawi azirin antibiotics-te hian chi nhihin hna an thawk thin a, bacteria te chu thatin (bactericidal) emaw an inthlahpung zel tur titawpa taksa ral dotuin a tihchhiat mai theih tura hnathawh (bacteriostatic)-te a ni.

TAKSAA A HNATHAWH

Antibiotics-te hian natna (infection) tlanglawn hi chu ni reilote chhungin an tidam tlangpui a. Natna lanchhuah dan (symptoms) hi vawi khatah an tihreh nghal mai thin loh avangin na chhawkna ei tel a ngai fo thin a ni. A natna kha dam tawh anga a lan hnuah pawh doctor chawh ang thlapin a course kimin ei ngei ngei tur a ni a, chuti lo chuan natna (infection) awm leh theihna a sang em em a, tin antibiotic kha a hnuah taksa a natna hrik that thei tawh lo (antibiotic resistant)-in a siam thei a, a paw em em thin a ni.

Damlo na serious lem lo leh damdawi-ina awm ngai lova in lama antibiotics nena in enkawl hovah hian a hman dan tur dik taka hman chuan side effect hlauhawm hi a tam lo viau a, kawthalo leh luakchhuak te hi side effect tlangpui chu an ni mai. Amaherawhchu mi thenkhat chuan antibiotic allergy an nei thin a, hei hian paw thui tak a thlen thei thung; fimkhur viau a tha.

FIMKHUR NGAIHNA TURTE

Hospital chhunga damlo enkawl na atana hun reilote chhunga hman antibiotics ho pawh hi a tlangpuiin damlo tam zawkah chuan an him em em a. Penicillin group (Amoxicillin, Ampicillin, etc.) leh Cephalosporins (Cefaclor, Cephalexin, Cefoperazone, etc.) teah hian fimkhur a

ngai zual a. Damloteah damdawi allergy avangin thak, hrawk, hmai leh hmui vung a thlen phah thei. Hetiang a thleng a nih chuan damlo enkawltute a rang thei ang bera hrilh tur a ni a, allergy thlentu damdawi group ami ho reng reng chu hman tawh loh tur a ni. Penicillin allergy nei nasa, hre hmasa si loa hman phei chuan nikhaw hre loin a awm der theih a, allergy test neih hmasak phawt tur a ni a. Hun kal tawh lamah antibiotics allergy nei chuan doctor hnenah hrilh ngei ngei bawk tur a ni.

Antibiotics tam zawk hi kal (kidney) kaltlangin taksa ațangin a inpaih chhuak țhin a, hei vang hian kal țha lo neiah chuan fimkhur leh zual a ngai țhin bawk.

ANTIBIOTICS HMAN LAR ȚHENKHATTE

Penicillins: Amoxicillin, Ampicillin (Inclav, Sensiclav, etc.), Cloxacillin, Penicillin G, Penicillin V.

Cephalosporins: Cefixime, Cefaclor, Cefoperazone, Cephalexin.

Carbapenems: Inipenem, Meropenem.

Aminoglycosides: Amikacin, Gentamycin, Neomycin, Streptomycin.

Tetracyclines: Doxycycline, Oxytetracycline.

Macrolides: Azythromycin (Azithral, Azy 500, etc.), Erythromycin.

Lincosamides: Clindamycin, Lincomycin.

Fluoroquinolones: Ciprofloxacin (Cifran, Ciplox, etc), Norfloxacin (Norflox, Norflox OZ), Ofloxacin (Oflox, O2, etc.)

Chloramphenicol, Metronidazole (Flagyl, Metrogyl, etc.), Rifampin.

ANTIBIOTIC RESISTANCE

Antibiotic hmasa ber Penicillin hman a nih ațangin kum zabi chanve chuang lai mai antibiotics chi hrang hrangte chu mihring natna tidamna atana hmanraw țangkai ber pakhat an ni a, antibiotics hman pawh a ni t̄elin a nasa telh telh bawk a ni. Hetia natna tam zawk thlentu bacteria-te antibiotics hmanga taksa hnathawk thei loa siam a nih țhin lai hian nghawng țha lo a nei ve leh zel a, chu chu Antibiotic Resistance hi a ni. Bacteria-te hi thil nung ve bawk, mihringte anga inthlah pung thei, din khawchhuahna atana insiam danglam thei an ni a. Hei vang hian antibiotics-in tihchhiat vek tuma a beih laiin bacteria-te chuan dam khawchhuahna kawng an lo zawng ve a, anmahni lo insiam danglam (mutation) emaw, antibiotics tichhe theitu enzyme lo pechhuakin an dam khawchhuahna an lo dap ve țhin a. Hei vang hian bacteria tam tak chu antibiotics an lo hmachhawn tawh ten an tichhiat theih tawh loh, antibiotic resistant strain-ah an lo insiam țhin ta a. Chutiang antibiotic resistant bacteria ho chu inthlahpung leh bacteria dangteah inkai chhawng ve zelin antibiotics hman kha damloah hna thawk thei miah lovin a awm theih phah ta țhin a.

Antibiotic resistance awm chhan hi damloin rei tak antibiotics a hman vangte, course kim lo leh mumal lo, duhdah taka antibiotics ei țhin avangte, a hmanna tur ni loa antibiotics hman a nih țhin vang te a ni a. Chuvang chuan damdawi chawhtu doctor thiam tak takte chu an fimkhurin natna thlentu dik tak bacteria kha zawng chhuakin, chumi mil chuan antibiotics treatment an kalpui țhin a ni. Antibiotics ei reng rengin a

course kim leh doctor chawh ang thlapa ei thin tur a ni a, doctor chawh ni loin ei reng reng loh tur a ni. Hetiang thil thleng hi damlo enkawl naah pawh thui tak a neih theih avangin mithiamten an buaipui nasa a, fimkhur lo taka antibiotics-te hi hman a nih chuan kum reilote chhungin natna (bacterial infection) tam tak hi enkawl dam hleih theih loh a ni thei a, resistance avang hian tun dinhmunah pawh TB damdawi atan chuan antibiotics chi li lai ei a ngai a nih hi! Khawvel puma hriselna lam ngaihtuatu pawl lian ber WHO chuan kum 2015 November ni 16-22 kha khawvel puma antibiotics resistance chungchang inhrilhriatna hapta

World Antibiotics Awareness Week ah a hmang a, India ramah pawh Indian Pharmaceutical Association bultumin hemi kar vëk hi Antibiotics hman chungchang inzirtina hun atan hmangin thupuih pawh **'Responsible Use of Antibiotics Saves Lives'** tih a hmang a. Mizoramah pawh Aizawlah leh Champhaiah hun hman a ni. Kuminah pawh hian khawvel hmun hrang hranga hriselna lama thawktute chuan nasa leh zuala tan lak tumin hma an la mek zel a. Keini Mizote pawhin hemi kawngah hian kan khaw hawi tizau ila, mi tu pawhin uluk leh fimkhur takin antibiotic hi i hmang theuh ang u.



- ▶ *The only way to do great work is to love what you do. If you haven't found it yet, locum for a bit.*
- ▶ *It is easy to get a thousand prescriptions but hard to get one single remedy.*
- ▶ *Restore a man to his health, his purse lies open to thee.*
- ▶ *We have not lost faith, but we have transferred it from God to the medical profession.*
- ▶ *The art of medicine consists of amusing the patient while nature cures the disease.*
- ▶ *You don't buy experience at the pharmacy. You acquire it through games over time. Every player must go through that, but when the federation hired me, they told me they wanted new players and young players who will prepare for the future.*
- ▶ *Good health is not something we can buy. However, it can be an extremely valuable savings account.*
- ▶ *The ingredients of health and long life, are great temperance, open air, easy labor, and little care.*
- ▶ *Happiness lies first of all in health.*

T.L. Rualawia
Head Pharmacist

MUSIC THERAPY AS BIBLICAL MEDICINES (Ref. I Samu. 16:23)

A Sap ṭawngin ‘Music Therapy’ han ti ve khanglang ıla, ṭhenkhat tan a fiah zawk nan Mizo ṭawngin ‘Mi tidantu Rimawi Damdawi’ emaw, ‘Rimawi Damna dawı’ tite pawhin ka’n ti leh law law mai ang e. Pathian Lehkhabu Thianghlimah ‘Rimawi’ hi damna atan hman ni miau hek le. A Sap ṭawnga ‘Music Therapy’ tih hi sawi zawm nan chuan hmang ta thung ıla a ṭha awm e.

Mithiamte sawi danin ti ve leh chhawng i la - Muisic tih ṭawngkam/thumal hi ṭawng dang aṭanga lo irh chhuak a ni a. France ṭawng chuan, ‘Musique’ tih a ni a, Greek ṭawng chuan ‘Mousike’ tih a ni thung. Latin ho erawh chuan ‘Musica’ an ti



thung a. Heng ṭawng hrang ṭang hian Sap ṭawnga 'Music' tih thumal hi lo piang ta niin sawi a ni. Eng hun lai ṭanga lo piang nge tih erawh chu hriat chian fak a har awm e. Bible-a a lan dan chuan, "...Adai chuan Jabala a hring a... A nau hming chu Jubala a ni a; ani chu ṭingṭang leh phenglawng tumtuho zawng zawng thlahtu a ni." (Gen. 4:20-21) Jubala chu Music lo chhuahna bulpui ber a tih theih awm e. Kaina thlahte an ni a, upa ve tawh tak a ni.

Rimawi (music) hian engtiang takin nge mi a tihdam theih a, engtia 'Damna daw' ang maia hna thawk thei nge maw a nih le? tih hi ngaituah tham tak chu a lo ni. Pathian thilthlawnpek, chhanchuahna hmanraw ṭangkai tak leh damna hmanraw pawimawh eltiang, a hnathawh chhui sen rual loh hi a hmang ṭangkai hmasatute chu Isreal fate kha an ni a. Joshua 6:20-ah chuan, "Chuti chuan mipuite chu an au va, puithiamten tawtawrawt an ham a. Tin, heti hi a ni a, mipuiten tawtawrawt ri an han hriat veleh chuan mipuiho chu an au ta dur dur a, kulh chu a chim ta rup a..." tih zia kan hmu a ni.. Laipui leh silai kah thu engmah awm lo va, tawtawrawt ri leh mipui au thawma Jeriko (Jerichoh) kulh a chim ta rum rum mai kha chu thil mak tak zawng a ni. Pathianin music/rimawiah hian thiltihtheihna ropui tak chu a lo dah ni ngei tur a ni. A hnu lehzelah pawh khan Levia mite khan zaipawl leh ṭingṭang tum pawlthe an siam ṭhin a nih kha. Sam 150-na kan en chuan, "Engkim thaw thei tawh phawt chuan Lapa chu fak rawh se," tiin a thil siamte chu a phût a. Rimawi hmanraw hrang hrang pawh chi tam tham tak a sawi lang bawk kha a ni a. Damna daw chi hrang hrang hmuhchhuah belh zel ang deuhvin

music/rimawi chi hrang hrang pawh a lo piang zel chu a nih hi. (Pipute hun laia kan music neih chi hrang hrang hlamchhiah tawhte pawh khan awmzia thui tak a lo nei ngei ang?)

Pathian Lekhhabu Thianghlimn thu, I Samuela 16:23-ah chuan, "Pathian tirh ramhuaiin Saula a man apiangin Davida chuan ṭingṭang a la a, a tum ṭhin a. Chutichuan, Saula chu a lo harh a, a ṭha leh ṭhin a; tin, ramhuai chuan a chhuansan ṭhin a," tih kan hmu a nih kha. Rimawi hna thawh pawimawhzia kha thil mak a tling a ni. Saula kha thlarau sualin a rilru a tihbuai lai khan, a damna chu Davida ṭingṭang tum ri, mawi tak mai kha a ni tlat mai! Helai Pathian thu hi ka thinlungah a hlu thar zual sauhin ka hria. Tunlai khawvel thiamna hi a sang chho zel a, rimawi thiltihtheihna leh ṭangkai taka a hnathawh theihziate pawh an hriat belh zel nite pawhin ka hria. Khawvela ram ropui leh changkang berte zinga kan ngaih, American mithiamte chuan rilru buai chi hrang hrang, an kum mil leh an rilru buai dan dinhmun azirin 'Music Therapy' hi an hmang ṭangkai hlein an sawi a. Naupang rilru buai, puitling kum la valai deuhte leh upat lama rilru buai enkawl nan music hmanrua hi an hmang ṭhin a ni awm e. A bik takin Alzheimer's Disease-te phei chu a enkawl na damdawi a awm lo niin an sawi ṭhin a. Amaherawhchu 'Music Therapy'-a enkawlin ṭhatpui an awm thung nia sawi a ni. Thluaka hriatna thazam chak lo emaw, ṭha lo tinunga tiharh turin music hnathawh hi damdawi pawimawh takah an hmang ṭhin a ni. Pathian thilthlawnpek music hi a hmang ṭangkai thiam leh duh apiangin damna daw atan hman theiha thuhruk a lo ni reng mai. Engtianga ṭangkai leh hlua

Pathianin music hi lo siam nge a nih hi chhui fiah thiam har tak a ni awm e. Tangkai taka hman thiam chu a dawngtu mawhpurhna a ni kan ti lo thei lo vang.

Ṭum khat chu, ṭhen khattana ho angreng taka ngaih theih, pawimawh em em bawk si, thil hlu leh manhla em em mai, vawk-in bulah zir chhuah thar ka nei a. Hei hian keimahah tawnhriat (experience) ṭangkai tak min neihtir a ni. Kan thawhpui, ka ṭhianpa inah zing ni chhuak ni lum ai pahin ka va leng a, ani chu kawmthlang lamah vawk chaw chhumna mei vil chungin a lo faifuk hlarh hlarh mai a. A bulhnai lawka lungrem chungah chuan Radio (Phillip) lian vak lo, hlui lam tawh deuh hi lo playin C. Vansanga hla ‘Lanu chuihthangval rual kan lenna’ tih hla hi a lo sa dep dep mai a. “E khai! Rimawi chu i ngaina ve hle a ni maw?” ka’n ti a. Ani chuan, “Ranin rimawi (music) hi an ngeih tih an sawi ṭhin asin,” tiin min chhang ta daih mai a. Fiamthuah ka ngai lek lek a. Amaherawhchu, patling tawh takin ama ngaithlak ringawt tur chuan vawk chawtui leh chawnawi, bucket-te nen chuan kawm thlang lama Radio nena inkhai kawp deuh ṭuaih mai chu peihawm loh tak a ni tih ka ngaihtuahin a thusawi chuan mi a hneh ru riau mai a. Music hlutna pawh ka hriat belh fe ni hian ka inhre nghe nghe a ni.

Pathianin kan nunna hnuk atana music khawl pawimawh em em, englai pawha ri dep dep, ri dup dup tura kan

lungphu (heart beat) a siam danah hian music tel lo chuan mihringte hi nunna neia piang chhuak kan awm thei dawn hauh lo a lo ni reng mai. Nu pum chhung aṭanga Pathian thilthlawnpek rimawi danglam tak mai hi kan dam khawchhuahna bul a lo ni reng mai. A ri a tawp hun hunah kan nunna chu a lo tawp mai ṭhin a nih hi. Chutiang zelin leilung thil leh van boruak (thli thāw te, lui luang ri te leh sava/rannung hram ri chi hrang hrang) te pawh hi rimawi ṭobul ni awma sawite pawh an awm bawk a ni. Chuvangin music leh mihringte inzawmna hi a thuk em em mai a, Pathian thilthlawnpekte zinga ril ber leh zau bera sawi a ni hial ṭhin a, ‘Music is the universal language’ an ti hial a ni.

Awle, ‘Music Therapy’ hi thuk lehzuala zir chianna leh a taka hman dan tur zir nate hi a awm ngai em aw? A hlutna leh a ṭangkaina ngaihtuah lem lovin thil dang (chawṭani) atan mai mai kan lo hmang thin em? **‘Bachelor in Therapeutics Music’** lamte hi awm ve ta sela, tun ai hi chuan hriselna lamah pawh hma kan sawn ngeiin ka ring. Mental Hospital-ah hian music lamte hi a hman chi phian lo’ng maw? Taksa, thinlung leh thlarau dam nan Pathian thilthlawnpek ‘Rimawi’ hi tun aia ṭangkai zawk leh manhla taka kan hman theih nan chhiartute zawng zawng duhsakna ka hlan zui nghal a che u.

Ka lawm e.



I believe that if you're healthy, you're capable of doing everything. There's no one else who can give you health but God, and by being healthy I believe that God is listening to me. – Pedro Martinez

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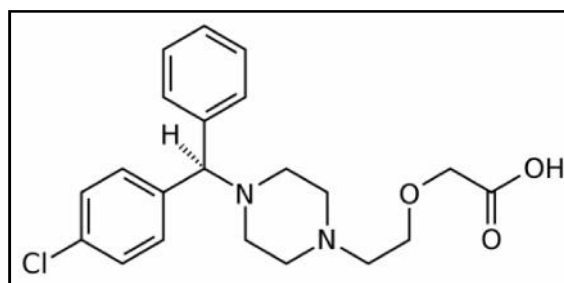
CETIRIZINE

Trade name: Allatrol, Alerid, Alzene, Ceterin, Cetirizina, Cetzine, Humex, Zynor, Zyrlek, Zyrtec, etc.

Generic name: Cetirizine

Eng atana hman nge?

Cetirizine hi antihistaminic damdawi niin, hritlangah leh allergy-in a thlen chi hrang hrang - thak te, hahchhiau te leh mittui leh hnaptui tla te damdawi atan hman a ni.



Engtin nge a thawh?

Cetirizine hian taksaa histamine (allergy siamtu) hnathawh a dang a ni.

Eng chemical nge a nih?

(±)-[2-([4-chlorophenyl]phenylmethyl)-1-piperazinyl]ethoxy]acetic acid.

Eng angin nge kan hmuh?

Cetirizine hi a müm, laihren, a mum sehsawm theih ang te leh a tui-in a awm a ni.

Engzata ei tur nge?

Puitling tan: Nikhatah vawi khat 5-10 mg-in pek tur.

Naupang tan: (Kum 12 leh a chunglam) 5-10 mg-in ni khatah vawi khat pek tur.

Kum 6 ațanga kum 11 inkar: 5-10 mg-in ni khatah vawi khat pek tur (5 mg/5 mL a tui chi-ah)

Thla 6 ațanga thla 23 inkar: 2.5 mg (5 mg/5 mL a tui chi-ah) ni khatah vawi khata pek tur; thla 12 ațanga thla 23 inkar tan a dose hi ni khatah 5 mg thlenga tihsan theih a ni a, 2.5 mg-in darkar 12 danah pek tur a ni.

Kum 77 chunglam tan: 5-10 mg-in ni khatah vawi khata pek tur a ni.

Side effect awm theite:

Ka chhung ro, luná, mutchhuak, chauh ngawih ngawihna te a thlen thei.

Damdawi dang a halte:

Cetirizine hi Ritonavir nen a inhal avangin ei kawp loh tur a ni.

Rai lai/Nau pawm lai tan a him em?

Cetirizine hi pregnancy category B-ah dah a ni a, a hlauhawmna em em a awm hran lo a, amaherawhchu rai lai hi chuan a ÷ul tëah lo chuan ei loh hi a him zawk a ni.

Kal ÷ha lo tana hman dan tur:

Kum 6 leh chung lam kal ÷ha lo natna nei tan ni khatah 5 mg-in vawi khat pek tur. Naupang kum 6 hnuai lam chu pek loh tur.

Ei laia hriat tur pawimawhte:

1. Cetrizine ei laiin harhvang taka awm ngaihna ang chi, entirnan, motor khalh ang te tih loh a ÷ha.
2. Cetrizine ei lain zu in loh tur. CNS depressants (mutna damdawi) te nen pawh ei kawp loh tur a ni.

References:

- 1) *www.micromedexsolutions.com*
- 2) *www.drugs.com*



Liberty is to the collective body, what health is to every individual body. Without health no pleasure can be tasted by man; without liberty, no happiness can be enjoyed by society. – Henry St. John

Treasure the love you receive above all. It will survive long after your good health has vanished. – Og Mandino

Natural forces within us are the true healers of disease. – Hippocrates

There's nothing more important than our good health - that's our principal capital asset. – Arlen Specter

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LALRUANGA DAWIBUR

Lalruanga Dawibur hi kan sawi larin Mizo hnim damdawi zingah chuan a lar pawl tak a ni awm e. Chi hnih a awma, a lian chi (Scientific name *Zanonia clavigera*) leh a te chi (*Neozalmitra clavigera*) te an ni. Mizote hian a pahnih hian kan hmang kawp niin a lang a, a chhunga tui han thun hian a kha em em a, chu chu pumna atan ei thin a ni a, mi a tidam viauin a hriat a ni.

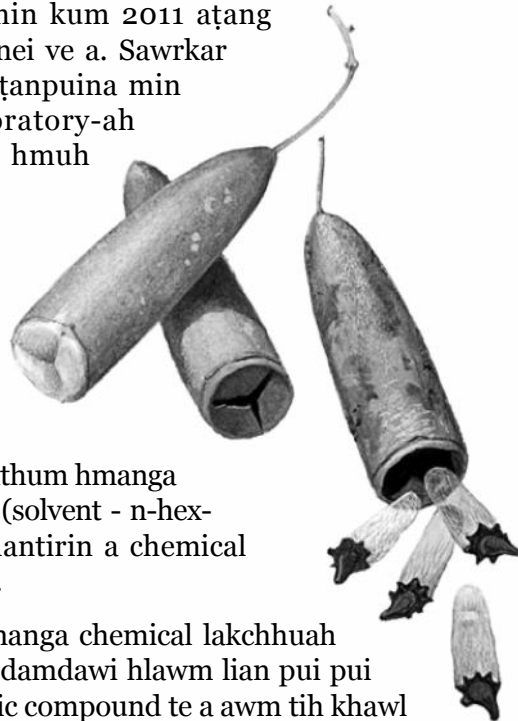
India ram hmun hrang hrang - Arunachal Pradesh, Assam, Meghalaya, Sikkim leh West Bengal-ah te a awm deuh ber a, a tlangpuiin tuifinriat atanga feet 3000-4000 vela sang tlangramah hmuh a ni tlangpui. Khawvel hmun dang dangah hmuh a ni nual bawk.

Lalruanga Dawibur thatna chi hrang hrangte hi scientific experiment hmanga nemngheh (proof) tumin kum 2011 atang khan kan phak tawk tawkin research kan nei ve a. Sawrkar laipui atangin Deptt. of Biotechnology-in tanpuina min pek hmangin RIPANS-a Pharmacy Laboratory-ah enchhinna tam tak kalpui a ni a, kan thil hmuh tawh chin sawifiah tum ta ila.

A damdawi pai lakchhuah a ni

Lalruanga Dawibura damdawi (chemical) awmte uluk takin, chhe lo turin chemical hmanga lakchhuah a ni a, n-hexane hmangin ni 7 chiah a ni a, chumi zawhah chloroform leh methanol hmangin ni 7 chhung lakchhuah leh a ni bawk. Heng thil pathum hmanga lakchhuahte hi uluk takin a lakchhuahna tui (solvent - n-hexane, chloroform, methanol) te tuihu-ah chantirin a chemical lawng chauhte zir chianna neih an ni ta a ni.

Ngun taka zir a nih hnuin methanol hmanga chemical lakchhuah chu zirbing atan thlan a ni ta a. Hetah hian damdawi hlawm lian pui pui Alkaloids, Carbohydrates, Sterols leh Phenolic compound te a awm tih khawl



hmangin hriat thuai a ni a, ram hnim damdawi tha tak a awm ngei a ni tih a Chiang hle a ni. Heta report hi International Conference 2013, Malaysia-a neihah Khan lecture kan pe nghe nghe a ni.

Damdawi tha a ni thei ang em?

Mihring taksa chhungah hian Oxygen leh Oxygen-in a siam peroxide te a awm a. Chungte chuan Oxidation reaction thlentirin free radicals tia sawi- chemical phel, engpawh zawmpui mai thei an siam chhuak a. Chungte chuan taksa cell-te zawmin an ei chhe thin a, natna chi hrang hrang an thlentir thei a ni. Cancer, zunthlum leh natna dang tam tak thlentur pakhatang heng free radicals-te hi ngaih an ni a. Heng insiam chhoh dan hi oxidation tih a ni a, he oxidation titawp thei hi anti-oxidant tih a ni. Vitamin C hi antioxidant tha tak pakhat a ni. Damdawi antioxidant ni ngalte hi damdawi tha tak an ni thin.

Lalruanga Dawibura chemical-te pawh hi a hmasa berah chuan heng free radicals-te hi an thatin emaw, an tichhe thei em tih laboratory-a chemical hmangin enchhin leh a ni a, a hlawhtling viau zel a. Mahse, a hlawhtlinna tak tak hriatna hmasa churannungah enchhin a ngai phawt a ni.

Rannungah zirchianna hmasa neih a ni

Sazu var chikhat Albino rats an tih hi Tezpur-a DRDO laboratory atangin zirchianna atan lak a ni a, chung sazu-ah chuan uluk takin methanol hmanga chemical lakchhuah chu enchhinna hmasa neih a ni ta a. Sazu pum chhungah damdawi dose chi hrang hrang kah luh a ni a, an awm dan leh damdawi hnathawh lang chhuak thei ang angte zirchian reng a ni a, sazu thisente lain exam reng a ni bawh a. Ni 21 chhungin sazu 80-ah zir

chianna kalpui a ni. A bik takin zunthlum tana blood sugar an tihhnam theih dan leh pum chhunga ulcer tana hna an thawh theih dante zirchian bik a ni.

A lo tha reng em?

Tuna zirchianna kan neih chinah chuan Blood sugar sang a tihhnam tha hle a ni tih hmuh chhuah a ni a, mahse hemi rual hian sazu, he damdawia enkawlte zawng zawng chuan an thin (Liver)-ah bawh a awm a ni tih hmuh chhuah tel a ni. Sazu pumpuiah ulcer nasa tak mai insiamna hnuhma hmuh a ni bawh a ni.

Hei hi a tawpna a ni lo

Heng kan thil hmuhchhuah hi a tawpna a la ni mai lo a, Lalruanga Dawibur hi a hlauhawm tihna a la ni mai lo tih kan hriat a tha. Tuna dose kan hman, uluk taka mihring tana hman tura kan buatsaihah side effect leh thil dang beisei loh kan hmu tel a, mahse a dose tidanglamin heng a effect hi a danglam thei dawn em em a, side effect leh thil dang tha lo a thlente lang lova enkawl theihna dose zawn chhuah tum mek a ni.

Chutih lai erawh chuan duh duha ei mai mai a, rinrawla neih erawh chuan taksaah thil tha lo dang a thlen thei a ni tih a tilang Chiang hle a ni.

A hlauhawmna lai ber hi a thatna a ni thei

Khawvela tur chak ber berte hi a dose dik taka pek a, uluk taka hman an nih chuan damdawi tangkai ber ber leh tha ber ber an ni thei. Lalruanga Dawibur pawh hi tuna a hlauhawm theihna hmuhchhuahah hian a tawp lo a, a hlauhawmna zawng zawng tel lova damdawi tha a nihna hre chhuak turin research kalpui mek zel a ni.

Saithangpuia, B.Pharm
NATCO Pharma, Hyderabad

CIPROFLOXACIN

Generic name: Ciprofloxacin

Trade name: Cipro, Cipro IV, Otiprio

Eng chemical nge a nih?

1-cyclopropyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)-3-quinolinecarboxylic acid or $C_{17}H_{18}FN_3O_3$

Eng angin nge kan hmuh?

Ei chi, mita thlawr leh inchiu Oral, Eye drops, IV

Taksaa a thawh dan:

Ciprofloxacin chuan taksaa bacteria inthlahpung tur a dang (bacteriostatic) thin.

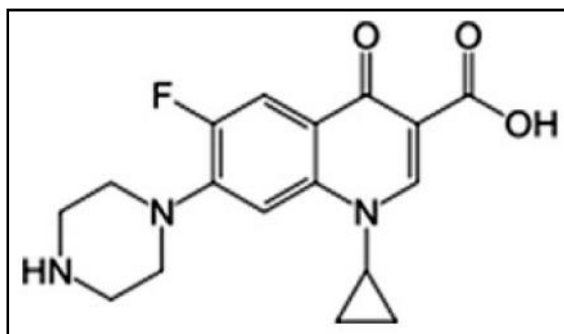
Dose pek zat tur:

Puitlingah: 400 mg IV-in darkar 12 danah. Heng natna- zunkawnga infection (UTI) awmte, sinusitis te, hritlang awmna, khawsik, a chhan tak hriat loh natna (natna benvawn leh serious ang chi ni loah) enkawlana atan te, ruh lam natna, vun natna, pum leh thin (liver) infection enkawlana atan te hman a ni.

500 mg oral-in darakar 12 danah heng natna- zunkawnga infection awmte, sinus te, hritlang awmna, khawsik, a chhan tak hriat loh natna (natna benvawn leh serious ang chi ni loah), ruh leh ruh inzawmna nate, vun natna te, pum leh thin (liver) infection leh kawthalo enkawl nan.

Thluaka khawsik lut enkawl nan 800 to 1200 mg IV-in ni tin darkar 8-12 danah. Bacteria vanga serha pan awmah chuan 750 mg oral-in ni khatah vawhnihin ni 21 chhung hman tur a ni.

Naupangah: 4 to 40 mg/kg naupang rih zawng nena chhutin ni tin 10 to 15 mg/kg IV (vawi khatah 400 mg aia tam pek loh tur) / 10 to 15 mg/kg oral-in darkar 12



THI NEIH VANGA NÁ LEH DAMDAWI (Menstrual Pain/Dysmenorrhea & Drugs)

Hmeichhe hrisel pangngai zawng zawngte, hmeichhia an nihnaa pawimawh tak mai chu thi neih (menstrual period) hi a ni awm e. Thi neih har lutuk emaw, thi hul hma lutuk te, thi neih tam lutuk leh thi neih mumal loh avangin mi tam takin buaina an tawk a. Hmeichhiain fa a pai theihna turin mumal taka thi a neih a ngai a ni. Hmeichhe tam takin thi an neih dawn hnai leh an neih laiin taksaah harsatna chi hrang hrang an tawk thin a, dysmenorrhoea avangin kawng ná, lu ná, hnungzang kham leh ná, luak chhuak, taksa kham, chauh ngawih ngawihna, pum ná leh harsatna chi hrang hrang an nei thin a. Ná nei renga awm ai chuan kan taksa natna tibo thei damdawi ei mai hi thil finthlak tak a ni.



Mizote hian kan han sawi tâk thi neih avanga ná chi hrang hrang laka min chhâwk tur hian damdawi hman lar tak tak kan nei a, chutiang zingah chuan Spasmolar, Temfix Plus, Spasmonorm leh a dang dangte pawh a ni awm e. He'ng damdawite hi na chhawkna hman lar tak paracetamol leh dicyclomine inpawlh te a ni hlawn a, damdawi ðha em em vek an ni. Damdawi reng reng hi kan taksa pawn lam thil, chemicals a nih avangin a lova awm theih hi duhthusam a ni a, chutih rual chuan a ðul hunah chuan kan hmang char char tur a ni a. Kan hmang ta rau rau a nih ve thung chuan a ðha leh dik thei ang ber, kan taksain a ðhatpui theih dan tur ber, a nghawng ðha lo tlem thei ang ber, kan sum leh pai sèn tlem thei ang ber leh ðul lova sum khawhral lo thei ang bera kan hman erawh a ngai a ni.

Hmanni lawk khan Pharmacy Times chuan USA-a thi neih lai kaihhnawiha na chhawkna atana pharmacy-a lei mai theih damdawi (Over The Counter Drugs) ðha leh hman lar tak tak panga a tarlang a, chu'ngte chu tlema sawi zau han tum ila, an hman lar dan indawtin:

1. MIDOL - Midol Teen Caplets - Paracetamol 500 mg (na chhawkna) + Pamabrom 25 mg (zun tamna)

Midol PM - Paracetamol 500 mg (na chhawkna) + Diphenhydramine - (anti-histamines, hei hian mutchhuak a siam theih avangin mut tituitu-a hman tel a ni)

Midol Complete Gelcaps-Paracetamol 500 mg + Caffeine 60 mg (Zun tamna + Pyrilamine maleate 15 mg (mut tituitu)

2. ADVIL - Ibuprofen 200 mg (na chhawkna)

3. ALEVE - Naproxen sodium 220 mg (na chhawkna)

4. MOTRIN - Ibuprofen 200 mg (na chhawkna)

5. PAMPRIN - Paracetamol 250 mg (na chhawkna) + Aspirin 250 mg (na chhawkna) + Caffeine 65 mg (zun tamna) - Paracetamol 500 mg (na chhawkna) + Pamabrom 25 mg (zun tamna) + Pyrilamine maleate 15 mg (mut chhuahna)

Kan han tarlan tak damdawite khi mi tam zawk chuan kan hre awm e. Na chhawkna (NSAIDS) kan hriat lar em em Paracetamol, Ibuprofen, Aspirin leh Naproxen te a tel a, tin, zun tamna atan Pamabrom leh thingpui fe a tam tak awm, Caffeine a tel a, antihistamines diphenhydramine leh pyrilamine te hi chu concentration tlemtea telh chauh a ni.

Keini aia hausa leh hnam upa zawk, hriselna leh damdawi lamah pawh kan entawn ber, ram changkangahte hian damdawi hman hi an fimkhur em em a, ðul lovah damdawi an leiin an ei mai mai ngai lo. Natna tlanglawn leh tuna kan tarlan ang chi, natna benvawn ni lem loahte hian damdawi (OTC drugs) hi a nihna ang thlapin an hmang a tih theih a. Tin, natna khirkhan deuh leh doctor pan ngaihna chinah pawh doctor-in damdawi chawh a fimkhur em em a (Mizoramah kan fimkhur lo tihna ni lovin), damlo chuan doctor lehkha nen pharmacy-ah kalin an damdawite an lei ðhin; lei satliah mai kha a ni ve lo a, pharmacy-ah chuan clinical pharmacist/community pharmacist-ten an damdawi lei leh ei tur nihna dik tak te, a hman dan tur leh a hnathawh, a nghawng ðha lo

awm thei te, damdawi dang nena ei pawlh loh tur te, a vawnthat dan tur lamin an lo hrilhfiah thin a ni. A tul dan azirin Medication Therapy Management an kalpui a, follow-up thlengin an tizui thin a ni. Heti taka fimkhur leh ulukna hmun a nih avang hian damlo enkawlna a tha em em reng a ni. Mizoramah pawh kan phak tawkin hetiang ang tur hian hma lak ve mek zel a ni.

A tir lama kan tarlan ang hian kan ramah chuan Paracetamol leh Dicyclomine (anticholinergic) inpawlh kan lei nasa thin hle a. Paracetamol mal hi doctor prescription kher lovin kan lei mai thei a, dicyclomine erawh hi chu schedule-H hnuai ami niin doctor prescription nena lei kher a ngai ve thung. Dicyclomine hian nghawng tha lo heng luak chhuak, ka chhung ro, taksa chauhna, luhai, zamna (nervousness), mut chhuak lup lup, luhai, mithmuh fiah lo te hi a lar zual a ni. Ni khatah 80 mg aia tam ei miah loh tur a ni a, tin, potassium, oxymorphone, donepezil, bupropion leh kuhva hringte nen ei pawlh hauh loh tur a ni bawh.

Hnam fing zawk leh changkang zawk umin kan tlan ta sa sa, hriselna leh faina kawngahte hian an hnung zui zel ila, damdawi hman chungchangah pawh an tih dan anga tiin fimkhur thei ang berin damdawi hmang ila. Thi neih laia na leh hrehawm kan tuar deuh a nih pawhin kan tarlan tak ang hian na chhawkn

Paracetamol, Naproxen, Ibuprofen te hi damdawi tha em em an ni tih theihngihl lo ila; tin, caffeine-te nen damdawi pakhat (fixed dose combination) kan hmu mai lo a nih chuan thingpui sen hi caffeine kan hmuhna tha tak a ni.

Tunlaiin thalai naupang zawk leh tleirawl thenkhat ten paracetamol 500 mg leh dicyclomine 20 mg inpawlh hi an lei nasa viau an ti a. A nihna tur tak, doctor chawh anga an hmang a nih chuan a tha a, mahse mi thenkhat hian ruihna atan an hmang ni awmin an sawi thin a, tak tak a nih chuan a pawh hle mai. Ni khat dose (max 80 mg) aia sanga ei a nih chuan dicyclomine side effect kan tarlante hi kan neih phah thei a, khitianga an awm khian rui nuam ta viauah an inggai ta ni tak maw?

Tin, paracetamol hi darkar 24 chhungin 4000 mg aia tam ei loh hrim hrim tur a ni bawh, dicyclomine nena inpawlh a nih avangin dicyclomine rui khawp tur chuan tablet tam tak ei a lo ngai ang a, maximum dose aia sang hi an ei fo ang tih a rinawm. Hei hian paracetamol nghawng tha lo zinga hlauhawm ber mai, thin tha lo (hepatic failure) a thlen thei a, zu nen a ruala ei/in a nih pheh chuan a pawh leh zual. Tin, pumpui, thluak, chuap, kal leh vunah harsatna chi hrang hrang a thlen thei bawh.

Damdawi a nihna angin fimkhur tak leh dik takin hmang la, hrisel la, hlim takin hun hmang ang che.



Give a man health and a course to steer, and he'll never stop to trouble about whether he's happy or not. – George Bernard Shaw

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THEITUI LEH DAMDAWI EI PAWLH CHUNGCHANG

Damlo kan tlawhin theitui han leisak mai hi a remchang a, han vahchhuah nikhuaa theitui han inte hian min tihharh sawng sawng zel bakah taksa tan pawh a ðha hle a ni. Amaherawhchu, damdawi nena theitui ei pawlh emaw, damdawi ei nana theitui hman emaw a nih chuan, kha theitui tui tak si kha taksain a chhiat phah thei thung a, a chang pheih chuan thihna hial a thlen thei a ni.

Theitui (fruit juice)-ah hian chemical compounds chi tam tak, hnathawh hrang hrang nei an awm a, damdawi ðhenkhat nena eipawlh a nih hian, damdawi hnathawhte an tihdanglam theih bakah nghawng ðha lo tak tak - lu ná, luak chhuak, zawi, BP sang, BP hniam, stroke, thâwkna lama harsatna te leh thihna hial a thlen thei a ni. Apple, cranberry, grapefruit, grape, pomegranate, serthlum leh citrus fruits ho te hian heng harsatnate hi an thlen nasa bik thei tih hriat a ni. Amaherawhchu, theitui zawng zawng hian heng harsatnate hi an thlen vek kher lo tih erawh hriat a ðha. Hetianga theitui leh damdawi ðhenkhat hnathawh an lo intihbuai dante hi hmuh chhuah mek zel a ni a, amaherawhchu, a theitui azirin chemical compound awmte pawh a hrang a, a awm zat



pawh a inang lo thei bawk a; chuvangin an hnathawh dante pawh a inang vek kher lo a ni.

Damdawi kan ei hian kan pum leh rílah a keh sawm a, kan thisen zam (portal vein) hmangin kan thin (liver)-ah a chho thin. Kan taksa peng hrang hranga damdawi a insemdarhna tur leh kan taksa aṅanga paih chhuah a awlsam zawk nan, enzymes chi hrang hrang, kan thin leh ríla awmte chuan damdawite hi an lo tidanglam thin a ni. Heng enzymes zingah hian cytochrome p450(CYP) te hian damdawi awm dan hi an tidanglam tlangpui thin. Tichuan, theitui leh damdawi thenkhat kan ei pawlh hian, theitui chuan cytochrome p450 enzymes hnathawh hi an lo ti danglam thin a, chu chuan, damdawi hnathawh a titâwp (block) emaw, a tichak zawk emaw thei a ni. Enzymes ho hnathawh chu theituiin a tihâwp chuan, damdawi chu danglam lovin kan thisenah an awmkhawm thin a. Chutia kan taksa aṅanga chhuak mai lova a awm reng chuan nghawng tha lo tak tak kan taksaah a lo thleng thin a ni. Hetih rual hian, theituiin enzymes hnathawh an tihchak chuan, damdawi kan ei kha rang takin an sawngbawl ta a, tichuan kan taksa aṅangin kan zun leh ekah paih chhuah vat vat an ni ta thin a ni. Chuvangin damdawiten an hnathawh tur ang an thawk hman lo va, an chakna kha a lo tlahniam thin a ni.

Theituaia chemical compounds awm zingah chuan heng Flavonoids (Naringin, Hesperidin) leh Furanocoumarins (bergamottin leh 6',7'-dihydroxybergamottin)-te hian damdawi hnathawh an tibuai nasa deuh ber a. Amaherawhchu, heng chemical compound chauh lo pawh hi damdawi

hnathawh tibuai theitu an awm tho bawk. Theituaia Naringin awmna kan in chuan, kan thin (liver)-in Naringenin-ah a lo siam danglam leh thin. He Naringenin hian cytochrome p450 enzymes zinga CYP 3A4 hnathawh hi a titâwp (block) thei a ni. Chutiang bawkin, bergamottin leh 6',7'-dihydroxybergamottin te hian CYP 3A4 enzyme-te hi an titâwp thei. Tichuan, kan sawi tak ang hian damdawi kan taksa lut te chu tihdanglam lohin an awm a, túr (poison)-ah an lo chang thei hial a ni.

Theituaia chuan grapefruits juice ho hian damdawi hnathawh hi an tibuaiin an tidanglam nasa thei em em a. Grapefruits kan tih hian, Mizovin grape kan tih nen hian a inang chiah lo va, citrus fruits kan tih ho zinga Serṅawk, Sermam ang chi te hi an ni zawk mah a ni. Heng hoah pawh hian a chung a chemical compound kan sawi tak angte khi an awm tam ber a, chuvang chuan kan CYP 3A4 enzyme-ah nghawng(effect) a ngah ber bawk a ni. Grapefruit ho hian kan thin ai mahin kan ríla CYP3A4 enzyme awmteah thil tha lo an thlen nasa a, damdawi tam tak phei chu awmze nei loah an chhuah daih thin. IV injections (medications) ho hnathawh erawh chu an tibuai em em lo thung. Amaherawhchu grapefruit ho pawh hi thei hrang hrang an nih avangin, an juice hrang hrangina damdawi hnathawh a tihbuai theih dan hi a inang vek lo a ni.

Kum kal ta lawkah pawh grape wine/ juice leh hritlang damdawi dextromethorphan awmna inpawlh avangin mi thenkhat in nunna an chan pah hial ang deuha report a awm a, a chhan ni awma lang thei chu, grape-a flavonoids compounds 90-95% hi a grape

mu (seeds)-ah leh a káwrah hian an awm a. Tin, grape mu-ah hian chemical compound pakhat, resveratrol tih hi a awm bawk a. Grape rah aţanga grape juice/wine-a an siam dawnin, an sawngbawlna lamah grape mute kha an lo keh sawm thei a, he chemical compound hi a grape tui (juice/wine)-ahte khan eng emaw zat a rawn chhuak tel thei a ni. Kan sawi tak ang khan, he chemical compound - resveratrol hian kan thina CYP 3A4 enzymes hnathawh chu a zu titawp ta ţhin a ni. Chuvang chuan, hritlang damdawi dextromethorphan nena grape juice/wine kan inpawlh chuan, dextromethorphan kha kan thinin a sawngbawl thei ta lova, kan taksa thisenah awmkhawmin nghawng ţha lo tak tak, thihna hial a lo thleng thei ţhin a ni.

Serthlum tui (orange juice)-ah pawh hian flavonoid compound - hesperidin a awm a. He chemical compound hi damdawi hnathawh tibuai theitu lar tak a ni nghe nghe. Damdawi ţhenkhat (entirnan, dextromethorphan) te nena ei pawlh loh tur a ni. Cranberry juice-te pawh hi oral anticoagulant drug (thisen khang vengtu damdawi) entirnan, warfarin nena kan in pawlh chuan warfarin hnathawh tibuaiin, thisen chhuak nasa tak a awm thei bawk. Theitui dangahte pawh chemical compound hrang hrang a awm avangin, damdawi dang nena ei pawlh loh hi a him ber a ni. Chutih rualin damdawi zawng zawng nena in pawlh a hlauhawm vek tihna erawh a ni kher lo. Heng theitui hi kan in duh a nih pawhin damdawi nena in pawlh/in rual kher lovin, darkar thum/li tal a kár tlaktir ţhin tur a ni.

A chung a theitui kan sawi hote khi cancer damdawi, BP sang damdawi, an-

tibiotics ţhenkhat te leh pum damdawi te nen ei pawlh hauh loh tur a ni. BP te a tihnam vak thei a, thâwkte a tibuai thei bawk. Luhai, chau, stroke leh thihna hial te a thleng thei a ni. Amaherawhchu, mihringte hi kan chi (genetic makeup) azirin a thawh dan mi hrang hrangah a danglam ve thei bawk. Damdawi kan ei dawn reng rengin kan damdawi ei kha damdawi dang nen emaw, theitui/thlai leh thil dang nen, a inhal em tih damdawi lam thiam (Pharmacist)-te zawh hmasak zel hi a finthlak a ni.

Zirchianna aţanga a lan danin, a chung a theitui kan sawi tak leh a hnuai a damdawi (generic drug) tlem azawng tarlante hi ei pawlh loh a him a ni:

Zunthlum damdawi - Repaglinide, Sitagliptin; *Cancer damdawi* - Crizotinib, Cyclophosphamide, Dasatinib, Erlotinib, Imatinib; *Pum damdawi* - Cisapride, Domperidone; *Malaria damdawi* - Primaquine, Quinine, Artemether; *Rulhlut damdawi* - Albendazole; *Antibiotic-Erythromycin*; *BP sang damdawi* - Losartan, Verapamil, Felodipine, Nifedipine, Amlodipine leh *Lung (Heart) damdawi* dangte - Amiodarone, Clopidogrel, Ergotamine, Quinidine; *Thluaka damdawi hnathawh chi, hritlang damdawi leh na chhawkna te* - Dextromethorphan, Diazepam, Fentanyl - Oral, Fluvoxamine, Ketamine - Oral, Methadone, Midazolam, Oxycodone, Triazolam; *Zun kawng damdawi* - Darifenacin, Fesoterodine, Silodosin, Tamsulosin leh heng damdawi hote hi - Budesonide - Oral, Colchicine, Methyl prednisolone - Oral, Atorvastatin, Lovastatin, Simvastatin, Estradiol, Ethinyl estradiol.

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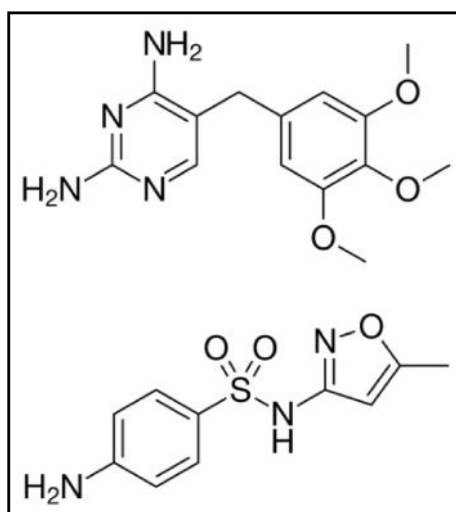
COTRIMOXAZOLE

Trade name: Bactrim, Cotrimoxazole, Septra, Bactrim DS, Sulfatrim, etc.

Generic name: Sulfamethoxazole/
Trimethoprim

A hnathawh dan tlangpui:

Sulfamethoxazole hi kan taksaah natna hrik thang zel tur tiñuanawptu (Antibiotic) a ni. Paraaminobenzoic acid (PABA) hi chemical chi khat a ni a, natna hrik thanna/insiam theihna dihydrofolic acid insiamna a ni. Sulfamethoxazole hian PABA-ah hna thawkin dihydrofolic acid insiam tur a dang a, tichuan natna hrikte inthlah pung thei lovin a siam thin a ni. Trimethoprim pawh hi antibiotic tho a ni a, natna hrik inthlah pung zel tur vengtu thangkai tak a ni a, dihydrofolic acid atangin dihydrofolate reductase hmangin tetrahydrofolic acid a insiam a, dihydrofolic acid reductase-ah trimethoprim hian hna va thawkin, natna hrik inthlah pung tur a veng a ni.



Antimicrobial Resistance:

Antibiotic resistance chungchang hi damdawi khawvelin a buaipui nasa em em a, antibiotic lar tak cotrimoxazole chungchang zirchianna tlem tarlang tel ila -

1. Sulfamethoxazole/Trimethoprim hi natna hrikte hian eng ang takin nge an huat (susceptibility/resistance) tih khawvel pum huapa zirchianna Alexander Project tia neih a ni a, chu zirchianna atang chuan Streptococcus pneumonia bikah chuan 100 zelah 63 vel (63.3%) hian an hua a, ram 26 a zirchiannaah chuan 100-ah 90 pel an awm lo a ni. Haemophilus influenzae bikah chuan 100-ah 78.3-in an hua a, Moraxella catarrhalis bikah chuan 100-ah 72-in an hua a. Sample-te hi khäk leh thisen atanga lak a ni a, natna hrikten an huat lohna pawh hi a inang lo a ni.

2. San Francisco General Hospital-a zirchianna an neihah chuan Cotrimoxazole hi bacteria-ten an huat lohna (resistance) hi kum 1998 atanga 1995-ah a sang a, zirchianna an neihah (Stahylococcus aureus, Citrobacter, Escherichia coli, Enterobacter, Klebsiella, Morganella, Proteus leh Serratia)-ahte hian a vaia khaikhawmin an huat lohna (resistance) hi kum 1987 thleng khan 5.5% niin 1995-ah 20.4% a kai chho a. HIV hospital bikah hian resistance hi 6.3% atangin 53%-ah a sang a ni. Cotrimoxazole resistant E.coli leh S.aureus bika neih HIV veiteah hian antibiotic dangah pawh resistance a awm tho nia hriat a ni.

Cotrimoxazole (Sulfamethoxazole/Trimethorim) hi eng natna hrikah nge a thawh theih?

1. Aerobic gram - positive
Streptococcus pneumoniae
2. Aerobic gram - negative
Escherichia coli
Klebsiella species
Enterobacter species
Haemophilus influenzae
Morganella morganii
Proteus mirabilis
Proteus vulgaris
Shigella flexneri
Shigella sonnei

Heng natna hrikahte hian a thawk a, an than a tiṭhuanawp ṭhin a ni.

Eng atana hman nge?

Cotrimoxazole hi kan sawi tawh ang khan natna hrikin a thlen natna tiḥdam nan hman ṭhin a ni. An hmanna ṭhenkhatte chu -

- ▶▶ Thâwkna lama harsatna/natna (Acute infective exacerbation of chronic obstructive pulmonary disease)
- ▶▶ Beng chung natna, bengkherh (Acute otitis media)
- ▶▶ HIV infection - Pneumocystis pneumonia
- ▶▶ Pneumocystis pneumonia, ven nan te
- ▶▶ Ríl lam natna chi khat (Shigellosis)
- ▶▶ Zinkawnga thil ei vanga kawṭhalo (Traveller's diarrhoea)
- ▶▶ Zun kawng lawng (Urinary Tract infectious disease)

Eng angina nge kan hman ang?

Cotrimoxazole (Sulfanethoxazole Trimethoprim) hi a mum, oral, tablet leh IV injection-in a awm a, IM-a pek loh tur a ni.

Engzata ei tur nge?

Puitling tan:

- ✘ Thâwkna lama harsatna/natna (Acute infective exacerbation of chronic obstructive pulmonary disease)-ah hian Haemophilus influenzae emaw Streptococcus pneumonia-in a thlen a nih chuan sulfamethoxazole 800 mg/trimethoprim 160 mg darkar 12 danah ni 14 chhungin ei tur.
- ✘ HIV infection - Pneumocystis pneumonia awmah chuan chuan a natna serious dan azirin 75-100 mg sulfamethoxazole leh 15-20 mg trimethoprim IV darkar 6-8 ni 21 chhungin a dose sem rualin pek tur.
- ✘ Pneumocystis pneumonia venna hi 800 mg sulfamethoxazole leh 160 mg trimethoprim ni khatah vawi khat ei tur a ni.
- ✘ Ríl lam natna (Shigellosis) - Sulfamethoxazole 800 mg/trimethoprim 160 mg hi darkar 12 danah ni 5 chhung ei tur. 8-10 mg trimethoprim hi nitin ni 5 chhung IV-in a dose sem rualin darkar 6, 8 emaw 12 danah pek tur, a sang berah 60 mL tur a ni.
- ✘ Zin mite natna neih ðhin pum lam dik lo (Traveller's diarrhoea) - Sulfamethoxazole 800 mg/trimethoprim 160 mg ni 5 chhung darkar 12 danah.
- ✘ Zun kawng láwng (Urinary tract infectious disease) - Sulfamethoxazole 800 mg/trimethoprim 160 mg ni 10-14 chhung darkar 12 danah UTI hi damdawi dangin a hneh loh chuan trimethoprim hi 8-10 mg IV-in dose rual tak sema pek tur, darkar 6,8 emaw 12 danah pek tur a ni.

Naupang tan

- ✘ Beng chhung natna (Acute otitis media) (thla 2 chin chung lam) - Streptococcus pneumoniae emaw Haemophilus influenza thlen a nih chuan Sulfamethoxazole 40 mg leh trimethoprim 8 mg hi dose rual taka semin darkar 12 danah ni 10 chhungin pek tur a ni.
- ✘ HIV infection - Pneumocystis pneumonia awmah chuan (thla 2 chung lamah) 75-100 mg sulfamethoxazole leh 15-20 mg trimethoprim IV-in ni 21 chhung dose rual taka semin ni 21 chhung pek tur a ni.
- ✘ Pneumocystis pneumonia, venna (thla hnih chin chung lamah) 750 mg sulfamethoxazole (a sang berah 1600 mg) leh 150 mg trimethoprim (a sang berah 320 mg) dose rual taka semin kar khatah vawi 3 pek tur a ni.
- ✘ Ríl lam natna (Shigellosis) - (thla 2 chin chung lam) sulfamethoxazole 40 mg leh trimethoprim 8 mg dose sem rualin darkar 12 danah ni 5 chhungin. Thla 2 chin chung lamahah 8-10 mg dose sem rualin trimethoprim IV-in darkar 6,8 emaw 12 danah ni 5 chhung pek tur a ni (IV hi a sang berah 60 mL tur a ni).

✱ Zun kawng lánng (Urinary Tract infectious disease) - (thla 2 chin chung lamah) Sulfamethoxazole 40 mg leh trimethoprim 8 mg hi darkar 12 danah ni 10 chhung (UTI hi damdawi dangin a hneh loh chuan), trimethoprim 8-10 mg IV-in dose rual taka sema pek tur darkar 6,8 emaw 12 danah.

Side effects awm theite:

A langsar zual deuhte chu thak, vual, luak chhuak, chaw ei tui lo leh a dangte. A nasat viau chuan hengte hi thlen thin - Allergy chi khat Erythema multiforme, vun natna chikhat Stevens-Johnson syndrome, thihna hial thlen thei vun natna Toxic epidermal necrolysis, kawthalo te, thin tha lo te, allergy vanga awm anaphylaxis leh a dangte a thlen thei bawk.

Damdawi dang nen eipawlh a him em?

Heng damdawite nen hian a ruala ei loh tur a ni -Dorfetilide, Gemifloxacin, Pyrimethamine, Methotrexate, Phenothiazines, Cyclosporin leh Zidovudine te nen.

Nausen tan a him em?

American Academy of Pediatrics-te zir chianna atang chuan Cotrimoxazole hi nuin a ei pawhin hnute tui hnektir a him a ni.

Kal thalo leh dialysis a dose hman dan tur:

CrCl 30 mL/min aia a san chuan dose adjust a ngai lo, CrCl 15-30 mL/min a nih chuan a dose 50% a tihhniam tur, CrCl 15mL/min aia a tlem chuan hman loh tawp tur a ni. Tin, dialysis ti mekte tan 50%-a dose tihhniam tawh kha dialysis tih zawh apiangin pek leh (supplement) tur a ni.

Co-trimoxazole ei lo turte:

Naupangah chuan thla 2 chin hnuai lam pek loh tur. Sulfamethoxazole Trimethoprim lo haw (allergic) tawh te, kal tha lo lutukah leh thin tha lo nei te tan hman loh tur a ni.

Co-trimoxazole chungchanga hriat tur langsar zual deuhte:

Co-trimoxazole hian ni zung natna a thlen theih avangin, he damdawi hman a nih lai chuan chhuah dawnah sunblock tha taka hman a pawimawh. Tin, luak chhuak leh vunah thak a thlen thei bawk. Hemi damdawi ei hnua damloin pum nuam lo, kawthalo, thawk lam harsatna te, vun natna te a neih chuan damlo enkawltute hrilh hriat vat tur a ni. Cotrimoxazole ei laiin tui in hnem tur a ni a, chu chuan kal a lungte awm tur a veng thei a ni.

Reference: www.micromedexsolution.com



Dr. C. Zothanmawia, Pharm.D (PB)
Drug Information Centre, RIPANS

DRUG INFORMATION CENTRE, RIPANS

Drug Information kan tih hian damdawi leh damlo enkawlna atana damdawi hman chungchanga zawhna awmte chhanna lo pea lo hrilhfiarna hi a ni, tiin a sawi mai theih awm e. Chutiang ang zawhna chu damlo enkawltu doctor-te leh a thawpui te, damlo leh chung te, pawl ho ang emaw mimal mi tu pawhin an zawt thei a. Zawhna reng reng chu a zawttu nihna leh hnathawh azirin hriatthiam awl leh fiah thei ang bera chhan a ni thin a, damdawi hman chungchangah harsatna emaw hriatfiah tawk lohnate tifiar a, mipuiin dik taka damdawi an hman theihna tura hnathawh hi drug information-in a tum bulpui pakhat a ni a, zawhna reng reng hi thlei bik nei lo (unbiased), rintlak, belhchian ngam leh uluk taka zirchian hnua chhan thin a ni.

Drug Information Centre, pharmacist-te enkawlna hnuaia awm hi damlo enkawltu doctor-te leh an thawhpuiten dik taka damdawi an hman theihna kawngah nasa taka a puih theih avangin ram

changkanng zawkah chuan mumal leh tha taka kalpui a ni a. India ramah pawh state, hospital leh zirna in tam takin an kalpui mek a, tangkai zawk leh tha zawka hman a nih theihna atan hma lak mek zel a ni.



Indopui pahnihna tawp hnu, thihna, manganna leh harsatna chi hrang hrangin a bawm thin khawvel pumah khan rilru hahna, lungngaihna leh indopui nghawng a ni ngei ang, zan muthilh harsatna nei an a tam em em a. Europe khawmual leh America ram mite chuan harsatna an tawk nasa zual bik hle. Chu an harsatna tawh chu su kiana tui taka mi muthilhtir thei tur, taksa tana paw si lo leh ruihna atana hman theih si loh damdawi hmuhchhuah tumin damdawi industry-te pawh an lo hmanhlel ve viau baw a. Kum 1957 a lo inher chhuah chuan a hun laia damdawi tham (wonder drugs) tia sawi hial Thalidomide chu German Pharmaceutical company pakhat Grünenthal chuan zawrh chhuah theihin a rawn chhawp chhuak ta rup mai a. Duh duha lei theih (OTC drug) niin ram hrang hrang 46-ah naupang leh puitling, nau pai lai tan pawh a him thlap tiin an zuar chhuak ta chur chur a. Benzodiazepines (Diazepam, Clonazepam, etc.) ni si lo, mut theihna atana tha em em si, raipuar tantir tan zing thawh tirha lu ná, luak chhuak, luhai leh chau te a la tireh lehzal bawk nen; a hun lai leh tun thleng pawha na chhawka tha tak Aspirin-te ai mahin USA-ah chuan hralh chhuah nasat a ni hial a ni.

Amaherawhchu, chu damdawi hlu leh tha mak dangdai tak chuan rin loh khànah thil paw tak a thlen ta tlat mai! Kum 1958 chho vela nau piang tam tak chuan fuke kim lo natna chi khat Phocomelia an nei a, kal leh thin tha lo mai bakah kut leh ke nei lo, rualbanlo nausen sing chuang an piang ta tlat mai! A chhan an han chhui Chiang a, heng naupang nute hian an rai laia Thalidomide damdawi an ei vang a ni tih an hmu

chhuak ta a. 1960-ah khan USFDA, UK leh khawvel hmun hrang hranga damdawi lama thuneitute chuan Thalidomide chu zawrh chhuah an khap ta a. Damdawi hman chungchanga fimkhur a tula lamah dan kengkawhtute an thangharh Chiang Kher Mai; dan thar leh khirh tak tak an Siam Phah ta a ni. A hnu fe kum 1996-ah mi tam tak rualbanlo Siamtu Thalidomide chu clinical trials leh zir chianna chi hrang hrang a paltlang hnuah phar natna chi khat erythema nodosum leprosum (ENL) enkawlana atan FDA chuan a pawm zui ta thung a ni.

Tuna kan tarlan tak vangte pawh a ni mahna, fimkhur leh dik taka damdawi hmanna kawnga hna thawk turin University of Kentucky Medical Centre, USA- a pharmacy resident leh Director of Pharmacy and Central Supplies ni baw Dr. Paul F. Parker kaihhruaina hnuaiah khawvela Drug Information Centre hmasa ber din a lo ni ta a ni. Hun a lo kal zel a, tunah chuan USA ram pumah kuan Drug Information Centre (DIC) changtlung leh function tha tak state hrang hrangah a awm mek a, hospital zawng zawng zaa sawmriat (80%)-in DIC hi an nei a ni. India ram pawh ram changkang zawkte uma kal ve zelin 1997 khan Karnataka State Pharmacy Council (KSPC), Bengaluru chuan India rama Drug Information Centre hmasa ber a din a, tun thleng hian tha takin hna an la thawk reng a. Damlo enkawltute leh damlote tan damdawi chungchangah dik tak leh Chiang Taka Hriat Fiahna tha neih a pawimawhzia hriain India rama World Health Organisation (WHO) office chuan Karnataka State Pharmacy Council nen thangkawpin state panga - Haryana (Sirsa), Chhatisgarh (Raipur), Rajasthan (Jaipur), Assam (Dibrugarh) leh Goa

(Panaji)-ah te DIC a din a, KSPC hi International Register of Drug Information Services hnuai in-register a ni nghe nghe.

Drug Information Service chuan hma a sawn ve zel a, tunah chuan state hrang hrang Pharmacy Council-ten anmahni theuh huaihawtin Drug Information Centre an din ta thluah a, tin, Medical College, Pharmacy Practice service awmnaah pawh mahni intum chawp DIC hi din a ni ve zel a, chutiang DIC service nei hospital zingah chuan Christian Medical College, Vellore, Tamil Nadu, AIIMS, Delhi, leh India rama pharmacy zirna in sang Department of Pharmacy Practice, National Institute of Pharmaceutical Education & Research (NIPER), Chandigarh te an tel a. Heng bakah hian Mizo zirlai thenkhatin an zir mekna JSS Hospital, Mysore, Karnataka leh he thu ziaktu zir chhuahna Kempegowda Institute of Medical Sciences (KIMS), Bangalore Karnataka-ah te pawh DIC changtlung tak a awm baw a ni. Mizoram State Pharmacy Council pawhin Council office, Directorate of Health & Family Welfare, Govt. of Mizoram office bul Dinthar, Aizawl-ah DIC a enkawl ve mek baw a. He kan DIC neih sa bakah hian institution tihmasawna atan leh Pharmacy profession-in hma a lo sawn zel a, mipui hrisel, hlim leh him an lo awm a, damdawi hman dan dik taka hman a nih theihna tura tangkai tak a nih beiseiin Department of Pharmacy, RIPANS chuan Institution Director, Dr. Chawngthanliana leh Department HoD Dr. H. Lahlhenmawia te hmalaknain April ni 27, 2016 atang khan Drug Information Centre, RIPANS chu Pharmacy Department building-ah din a ni a. Ms. K.Lalremmawii leh Dr. C.Zothanmawia te chu DIC incharge-ah awmin zawhna awm reng reng chu a

remchan dan angin an lo chhang thin a ni. A remchan dan ang angin Pharmacy zirlaite chu duty-tir thin an ni a, zirlaite chhanna pek tur reng reng hi faculty incharge-te hian uluk taka an enfiah hnuah chhanna hi pek thin a ni. Zawhna leh chhanna mai bakah hian Drug Information Centre, RIPANS chuan thla thum danah Drug Information Bulletin chhuahin tunah hian issue hnih tihchhuah tawh a ni a, DIC bulletin hi Aizawl khawpui chhunga hospital leh public health centre hrang hrangah sem darh a ni a, district tina CMO, Asst. Director, Food & Drugs Administration hnenah a remchan dan angin a copy sem darh a ni baw a, anni hian a tul an tih angin an lo sem darh leh thin a ni.

Eng ang zawhna nge zawh theih?

✱ Therapeutics, drug availability, drug identification, optimization:

1. Damdawi hmanna, damdawi hman theih tura a awm dan, entirnan, tablet/syrup/injection-a a awm leh awm loh te, emergency-a damdawi route danga pek a pawh leh pawh loh hriat duh hun a lo awmin, damdawi nihna hriat chian duhin.
2. Damdawi prescription pek hunah damdawi eipawlh a him leh him loh hriat duh hun a lo awmin.
3. Kum upa lam bikah damdawi chi tam tak hman ngaih chang a lo awm thin a (polypharmacy), hetiang hunah hian damdawi chawhtu doctor-in damdawi chungchangah hriatchian duh a neih hunah chhanna lo pe turin DIC hi a tangkai thei hle.
4. Damdawi hnathawh khaihkin emaw, dose khaihkin duh hun a lo awmin DIC hian a pui thei baw.

5. Damdawi mal emaw, fixed dose combination hriat chian duh neih hunah damlo enkawltu doctor leh a thawhpuiten zawhna an zawt thei reng bawk a ni.

6. Naupang damdawi dose chungchangah.

7. Kal tha lo leh thin tha lo damloah dose adjustment siam chungchangah.

✧ Adverse drug reactions: Damlo nghawng tha lo hi chi hrang hrang a awm a, hemi chungchangah hriatfiah duh nei tan DIC hi a t̄angkai viau bawk.

✧ Dosage and administration: Damdawi dose leh hman dan tur chungchangah.

✧ Pharmacokinetics: Taksaah damdawi kan han lalut a, engtin nge taksain a lo sawngbawl ang a, taksaa damdawi awm hun chhung tur te, half life leh taksa a t̄anga a inpaih chhuah dan chungchangah chhanna pe turin DIC hi a t̄angkai viau bawk.

✧ Pregnancy & Lactation: Damdawi reng reng hi nau pai lai tan ei a him dan azirin group hrang hrangah then a ni a, rai laia damdawi hman him leh him lo chungchangah.

✧ Poisoning and toxicity: Damdawi, zu leh chemical ei sual vanga harsatna chungchangah.

Heng kan tarlan bakah hian damdawi kaihnawih reng rengah zawhna chi hrang hrang a zawh theih bawk a ni.

Engtin nge zawhna chu chhan thin a nih?

DIC-a zawhna lo lut reng reng hi zawhna awm hun chhinchhiah vek a ni

a. Zawhna awm chu uluk taka zir a ni a, a zawttu milin chhanna pek thin a ni.

Zawhna leh chhanna reng reng chu tih dan phung mumal takin documentation siamin DIC file-ah dahthat vek thin a ni bawk.

Zawhna chhanna pek dawn hian drug information resources chi hrang hrang hman a ni a, chutiang resources-te chu primary, secondary leh tertiary resources-a then niin DIC, RIPANS chuan secondary resources zing ami Micromedex software chu Truven Health Analytics, Michigan USA hnen a t̄angin pawisa chawin a subscribe a, hei hi khawvela drug database tha ber leh rintlak ber pakhat a ni avangin resource atan hman ber a ni. Hei bakah hian lehkhahu chi hrang hrang leh internet website rintlak tak tak a t̄ul anga hman thin a ni bawk.

Engtin nge zawhna i zawh theih ang?

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GENTAMICIN

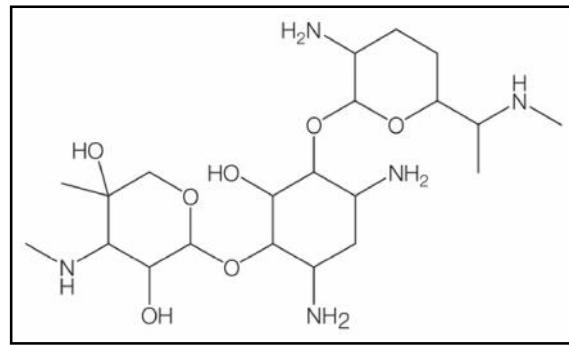
Generic name: Gentamicin

Trade name: Garamycin, Genoptic, Genoptic, Gentacidin, Gentafair, Gentak, Gentasol, etc.

Eng chemical nge a nih?

Purpurosamine, 2-deoxystreptomamine, Garosamine

Eng angin nge kan hman thin?



In chiu nan (IM emaw IV) leh vun pawnlanga hnawih atan.

A hnathawh dan:

Gentamicin hi aminoglycoside antibiotic a ni a, natna hrikin protein an siam tur titaupin natna hrik a tihlum thin a ni.

Engzata ei tur nge?

Puitling tan: Gentamicin dose pangngai hi ni khatah 3 mg/kg niin, darkar riat danah ni sarhi atanga ni sawm chung IV emaw IM-in pek thin a ni (he dose hian natna hrang hrang - Bacterial meningitis, Bacterial septicemia, ruh na, vun na, lung natna - Infective endocarditis, Peritonitis, pum na, thaw dawt na leh zun kawng na). Natna thihpui awlsam hoah chuan Gentamicin hi ni khatah 5 mg/kg-in wawi thum emaw wawi li pek tur a ni.

Naupang tan:

Naute (kum khat leh hnuai lam) tan Gentamicin dose hi ni khatah 7.5 mg/kg-in ni sarhi atanga ni sawm chung darkar riat danah pek tur a ni. Nausen (kar khat leh a hnuai lam) tan Gentamicin dose hi 5 mg/kg-in darkar sawmpahnih danah IV emaw IM-in ni sarhi atanga ni sawm chung pek tur a ni.

Side effects awm theite:

Vun thak, bawl, ni zung ngam loh ná (Photosensitization) te hi a side effect langsar zual an ni.

Damdawi dang a halte:

Gentamicin hi damdawi dang - Ethacrynic acid leh Furosemide nena rei tak hman chuan beng tan a pawl thei a. Tin, Gentamicin leh Cidofovir, Methoxyflurane emaw Vancomycin te hi rei tak hman kawp chuan kal (kidney) tan a hlauhawm thei bawk a ni. Gentamicin hi aminoglycoside antibiotics allergy nei tan hman miah loh tur a ni.

Rai lai/nau pawm laiin ei a him em?

Gentamicin hi rai laiin nu in a mamawh anih chuan, daktawr chawh chauhin a hmang tur ani a. Tin, nau pawm laiin mamawh dan a zirin hman a him bawk a ni.

Kal tha lo leh dialysis-a dose hman dan tur:

Kal tha lo tan Gentamicin hi dose pangngai (3 mg/kg) thoa pek tur a ni a, mahse creatinine clearance (CrCl) azirin a pek hun hi tihdanglam tur a ni. CrCl 60 aia tam tan darkar 24 danah pek tur a ni a, CrCl 40-60 inkar tan darkar 36 danah pek tur niin CrCl 20 aṅanga 40 inkar tan darkar 48 danah pek bawk tur a ni. Tin, damlo dialysis ti mekte tan Gentamicin hi dialysis tih zawh apiangah pek tur a ni a, puitling tan 1-1.7 mg/kg IV-a pek tur niin naupang tan 2mg/kg IV-a pek tur a ni.

References:

www.micromedexsolutions.com
National Formulary of India 2011
AHFS Drug Information 2013



Pay mind to your own life, your own health, and wholeness. A bleeding heart is of no help to anyone if it bleeds to death. – Frederick Buechner

Knowing that we can be loved exactly as we are gives us all the best opportunity for growing into the healthiest of people. – Fred Rogers

I think that age as a number is not nearly as important as health. You can be in poor health and be pretty miserable at 40 or 50. If you're in good health, you can enjoy things into your 80s. – Bob Barker

NU HNUTE TUI LEH DAMDAWI

Nausen tana chaw tha ber chu a nu hnute a ni tih kan hre theuh awm e. Nu hrisel tak hnute hian naute thla ruk a tlin thlenga chakna leh chaw tha a mamawh ang chu a pai kim vek a, khawvela hriselna leh naupang lama hma latu leh ngaihtuahtu pawl lian ber World Health Organisation (WHO) leh United Nations Children's Fund (UNICEF) pawhin hemi hun chhung hian naute chu a nu hnute chauha chawm ni ngei se a ti a ni. Thlabi kip thlapa piang, nu hnute tui tha tak hne thin bawk naupang chu natna chi hrang hrang lakah an taksa raldo khawl (immunity) a chak bik a, natna an kai har bik thin. Tin, naupan lai atanga zunthlum/pianpui zunthlum (juvenile diabetes, type-1 diabetes, zunthlum tam ber hi chu type-2 diabetes a ni) hnathawh a lang chhuak har bik a, asthma leh allergy lakah an paukhauh bik bawk. Hei mai hi a ni lo, mithiamte zirna atangin nausen laia nu hnute tui hne tha chuan an puitlin hunah pawh BP sang leh thau chhia an nei tlem thin tih hriat a ni bawk. Nu, a fa hnena hnute tui pe tha chuan hnute cancer an vei theihna a hniam bawk a, nau pai leh turin an taksa a insiam tha hma bawk. Naute tan nu hnute tui hnek that a pawimawhzia mi tam zawkin kan lo hriat theihna turin World Alliance for Breastfeeding Action (WABA) chuan WHO/UNICEF leh pawl dangte nen tangkawpin August ni 1-7, 2016 kha khawvel pumah World Breastfeeding



Week (Naute hnena Nu Hnutetui Pek Hapta) atan a hmang hial a. Kan ramah pawh Health Department hmalaknain hun pawimawh tak hman a nih kha. Mipuite tan a tangkai beiseiin damdawi leh hnutetui chungchang hi i han tarlang ve teh ang.

Nu hrisel tak chuan hnutetui a nei tha a, a fa chuan a mamawh ang hnute tui a hmu thin, hei hian naute chu naute hrisel leh than tha tak a lo nihtir thin a ni. Mahse khawvel pianken zing ami chu tupawh hi hrisel lo thei, natna kai thei leh

bawrhsawmna chi hrang hrangin a tlakbuak theih kan ni vek mai hi a ni a. Chumi zingah chuan nute hi an bang bik hauh lo; rai lai leh naute neih tawh hnuah pawh an taksaah harsatna an tawk ve thei a, damdawi ei ngaiin an awm phah thei. Hnute tui țangkaizia leh hlutzia kan hriat rual hian, naute hnute tui pe mek nu tan damdawi ei chungchangah fimkhur a ngai ve em em bawk a. A chhan chu damdawi, chaw leh chaw țha siam sa (nutrient supplement) leh thil dang a ei zawng zawng deuhthaw kha a fain a hnêk mek a hnute tuiah khan a kal tel ve theih vang a ni. Chu chuan a nauteah nghawng a nei thei țhin a, a țha lam zawnga nghawng a neih theihna turin nau hnute tui pe laite chu ei leh inah pawh induat a pawimawh viau țhin a nih hi. Chutiang chiah chuan damdawi leh a kaihhnawih nghawng duhawm lo, (adverse effect) laka naute a him theih nan fimkhur takin nuin damdawi a ei erawh a ngai ve thung bawk.

Kan sawi tawh angin nuin damdawi a ei zawng zawng deuhthaw hi tlem te tein a hnute tuiah a tel thei a. Nu damdawi ei avanga nautea nghawng țha lo (adverse effect) thleng ta hi chu a tam lo khawp mai, mahse hei hi chu a damdawi azir leh a ei hun, hnute tui a pek hun leh a dose ei zat, hnute tuia damdawi kal zat leh nu taksain damdawi a lo sawngbawl dan (pharmacokinetics) azirin a danglam thei viau thung. Miin damdawi kan ei reng reng hian kan pumpui leh rilte ațangin thisen zamah a lut a, chuta țang chuan damdawi chu thinah kalin, thinin a țul anga a lo sawngbawl hnuah lungah a kal leh a, lung ațang hian taksa peng hrang hrangah a kal ta țhin a ni. Damdawiin hna a thawh tur ang a thawh zawh

hnuah zunah, êkah, thâw-ah leh thlan kaltlangtein taksa ațanga paih chhuah a lo ni ta țhin a. Hemi chungchang hi sawi thui tur a tam khawp mai a (hnutetuaia damdawi a tel dan a nghawng avangin), mahse ti hian duh tawk mai ila.

Nuin damdawi a ei khan a damdawi azirin a hnute tuiah a tamin a tam lo thei a, damdawi thenkhat chu hnute tuiah a tel miah lo ve bawk. Damdawi hi acid chak lo tak (weak acids) emaw, base chak lo tak (weak base) a ni hlawm tlangpui a, chutiang zingah chuan weak base, entirnan, Erythromycin, Ciprofloxacin, Doxycycline, Chloramphenicol ang chite hi hnute tuiah an tel hma bik a, weak acid zing ami Penicillin, Amoxicillin ang chi erawh chu nu hnuteah an awm ve mang lo thung. Damdawi chu thau (lipid)-ah a zawp ral hma leh hma lohin kawngro a su leh bawk a, thaua zawp ral hma chi thluak lama hnathawk thei damdawi, heng depression damdawi kan tih chi hrang hrang te, damawi ruih theih chi leh zu te hi nu hnuteah chuan an tel hma em em bawk. Kan thisenah hian proteins țangkai tak tak an awm nual a, chutiang zingah chuan albumin leh alpha globulin hian kan thisen zama damdawi awmte nen chuan an lo inman (complex) țhin a, chutianga an inzawm hnu chuan thisenah khan awm rengin taksa peng dangah damdawite chu an lut thei lo țhin a, mahse taksain a mamawh dan leh a țul dan azirin damdawi nen an inman behna chu an thlah leh mai țhin bawk a (reversible protein bound drugs). Damdawi zingah hian proteins-te nena inman chak leh tam ho (highly protein bound drugs) entirnan, Warfarin angte hi nu hnute tuiah an awm tam lo viau țhin. Hei bakah hian damdawi len zawng (size/molecular weight) hian kawngro a su leh bawk a,

damdawi molecular weight sang tak nei ho, heparin leh insulin kan tih angte hi nu hnuteah an awm tel lem lo bawk. Damdawi chu acidic ni a, thisena proteins-te nen inman nasa tak, thaua zawp ral thei lo apiang chu hnute tuiah an awm tlem dawn tihna a ni. Na chhawkna (NSAIDs, Paracetamol hi nu leh naute tan a him em) te hi entirna zing ami a ni. Damdawiin nu hnute tui ațanga naupanga nghawng ța lo a neih theihna hi a damdawi hlauhawm dan azirin a danglam thei viau bawk a, entirnan, adverse/side effect nasa tak nei cancer enkawlna damdawi chite hi naute tan a hlauhawm a, tin, side effect inang nei damdawi, a bikin rilru lama harsatna nei enkawlna leh kaih damdawite hi ei kawpin naute tan a hlauhawm zual a ni. Damdawi ținkhat chu (entirnan, desmethtyl diazepam) taksa chhungah thinin a tihdanglam tawh hnuah pawh hna la thawk fo a awm a, hei hian naute, a bikin nausen thla ruk la tling lo taksa, damdawi paih chhuahna (clearance) la chak lo takah chuan damdawi kha taksa awm hun chhung a tirei thei a, hei hian nghawng ța lo awm theihna a tisang em em a, natna benvawn vei nu chuan damdawi ei reng a lo ngai a, hei vang hian fimkhur zual em em tur a ni. Damdawi zingah chuan a hipa hip luh chi leh vuna hnawih chi hi naute tan a him ber a ni.

Engtin nge naute chu damdawi laka him thei ang berin kan siam ang?

1. Mithiam chawh a nih loh chuan țin lovah damdawi ei mai mai loh tur.
2. Thlai ațanga damdawi siam (herbal drugs) hi an him leh him loh zirchianna mumal tak a tam loh avangin ei loh hram a ța.

3. Nu leh naute hriselnain a țintpui theih dan tur leh a hlauhawm dan khaikhinin uluk taka damdawi hman țin tur a ni.

4. Raipuarin fa a hrin dawn hnaihah uluk takin damdawi ei a neih chuan enfiah țin tur a ni.

5. Damdawi hman dawn reng rengin uluk taka zir chiangin, hnute tuia kal tam lo ber damdawi a theih anga hman țin tur a ni.

6. Damdawi chhuak thar ța tak a awm a nih pawhin, a tlukpui tho, naute tana him tawk tih hriat sa hman hram tur a ni.

7. Nautea nghawng ța lo awmtir thei, naute hrisel lohna chi hrang hrang, thla kim lova piang leh nu damdawi ei chi hrang hrangte fimkhur taka zir chian țin tur a ni.

Kan tarlan tak zawng zawng bakah hian nausen leh naute kum khat la tling lovah hian an thil ei leh in reng rengte chu pum leh rilah te an awm chhung a rei bik a, kal leh thin hnathawh a la puitling lo bawk. Hei bakah hian thisena protein (albumin, etc.) a la tam tawk loh avangin damdawi an ei/in leh nu hnute tui ațanga an taksa lutten nghawng ța lo an thlen theihna hi puitling aiin a sang bik bawk. Naute chawm lai nuin damdawi a hman tam zawk hi naute tana hlauhawm lem loh an nih lain damdawi ținkhat, nau hnute tui pe lai tana fimkhur ngaih zualnate han tarlang ila:

1. Cancer damdawi hrang hrang hi naute tan a him lo thei a, churang chuan hetiang hmang tan chuan naute hnute hnektir loh tur a ni. Radiation pe chhuak thei damdawi (radioactive substances)

hman/ei a nih chuan hnute tui pek rih loh tur a ni.

2. Kaih leh depression damdawi hman reng rengin nautein hnute a hnek zawhin a mut a chhuak zual em tih leh, hnute a hnek duh loh phah em tih en thlithlai reng tur a ni.

3. Nauteah nghawng ða lo a nei thei tih hriat chian antibiotics - Chlaramphenicol, Tetracyclines, Metronidazole, leh Quinolones (Ciprofloxacin, Ofloxacin, etc.)-te hi a theih chin chinah hman loh a ða.

4. Sulphamethoxazole + Trimethoprim (Co-Trixmolaxole, Bactrim, etc.) leh Dapsone hman hian nauteah mîtliaam a thlen theih avangin uluk takin naute thlithlai tur a ni.

5. Hmeichhe indanna damdawi estrogen tel, zun tamna (thiazide diuretics) leh hmeichhiain nau an neih zawha thi pût tam lutuk venna ergometrine damdawite hian hnute tui a titem emaw, a insiam tur a titâwp thei; hman a nih chuan fimkhur hle tur a ni.

Kan sawi tawh angin damdawi tam zawk hi naute chawm lai nuin a ei a him em em a, mahse kan hman dawng a nih chuan fimkhur taka hman tur a ni thung. Kan damdawi hman lar zualpui, nu leh nausen/naute hnute hne laite tana him em em te tlem han tarlang leh ila:

1. Na chhawkna chi hrang hrang, heng Paracetamol (Calpol, Dolo, Larkin, Fenceta, etc.), Aspirin, Ibuprofen (Brufen), Morphine leh Pethidine te hi a ðul huna reilote chhung hman a nihin a him.

2. Antibiotics zingah chuan Penicillin, Amoxicillin, Erythromycin, Cloxacillin-te hi him tawka ngaih a ni.

3. TB damdawi, malaria damdawi (Mefloquine tel lovin), rulhut hlo leh Fungus natna hrik avanga vun natna chi hrang hrang enkawlana atana hman Clotrimazole, Itraconazole, Fluconazole te pawh him tawkah ngaih a ni.

4. Thisen sang damdawi chi hrang hrang, zunthlum damdawi, allergy damdawi, pum lam enkawlana damdawi chi hrang hrang, asthma leh chuap lam harsatna enkawlana damdawi leh na chhawkna ða tak mai glucocorticoids te pawh dose pangngaia eiin a him viau baw.

5. Iron, vitamins leh chaw ða pai damdawi chi hrang hrangte hi a nih dan pangngai taka ei chuan naute tan a him a, nu tan pawh a ða em em baw.

Damdawi chi hrang hrang a tam a, a ðhen chu dose khat chauha hman a him taw; hman nawn loh hram ða. Entirnan, Morphine, Diazepam, Promethazine, etc. te hi hman nawn a nih dawn chuan naute-ah damdawi nghawng duhawm lo a awm em tih uluk taka en ðhin tur a ni. Damdawi tam zawk hi him mah se damdawi tam tak hi a him leh him lohna finfiah theih loh (data la tlem avangin) te pawh a awm baw. Fimkhur takin damdawi hman la, damdawi i ei dawnin a theih chin chinah mithiam rawn ðhin la, Drug Information Centre, RIPANS te hi lo hman ðangkai ve ðhin ang che. Nang leh i fa, i chhungte hriselna hi i kutah thui tak a inngat a ni.



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METRONIDAZOLE

Trade name: Flagyl, Flagyl ER, Flagyl I.V. RTU, Metrocream, Metrogel, Metrogel-Vaginal, Metro lotion, Noritate

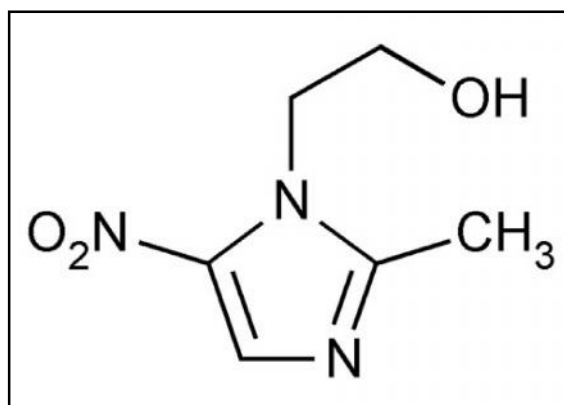
Generic name: Metronidazole

Eng chemical nge a nih?

-methyl-5-nitro-1H-imidazol-1-yl)ethanol

Eng angin nge kan hmuh thin?

Metronidazole hi a mum (tablet), lai hren (capsule), inchiu chi (injection), cream, lotion leh gel-in hmuh tur a awm.



Eng atana hman nge?

Metronidazole hi damdawi t̄angkai tak a ni a, bacteria leh protozoa avanga natna hrang hrang, thin leh taksa hmun danga tuihnang chi khat, pus tlingkhawm vanga v̄ung leh p̄un, santen, kawthalo, thluak, ruh leh hmeichhe serha bacteria vanga natna (infection), ulcer hrik (H.pylori) nei enkawl na atan te hman thin a ni. Tin, pumpui leh ruh chuktuah laia natna enkawl na atana hman damdawi dang puitu atan hman thin a ni a, natna thenkhat lak a t̄anga invenna (prophylaxis) atan pawh hman a ni bawk.

Engtianga hman tur nge?

Metronidazole hi natna azirin hman zat tur a danglam a. Puitling tan heng p̄un/v̄ung. Thluak infection, ruh natnahte hian darkar 6 dan zelah 7.5 mg/kg-in ni 7-10 chung ei tur a ni. A chiu chi (IV) dose hmasa ber (loading dose) hi 15 mg/kg-in darkar 1 chung pek tur a ni a, a dose hmasa ber pek a t̄anga darkar 6 hnuah a chhunzawmna dose (maintenance dose) hi 7.5 mg/kg-in darkar 6 dan zelah pek tur a ni. Thin p̄un/v̄ung leh santenah chuan 750 mg ni khatah vawi thum ni 5-10 chung ei tur a ni.

Serh a t̄anga bawhlawh chhuakah chuan zawi muanga in-release chi (extended release tablet) hi 750 mg hi ni khatah vawi khat ni sarih chung ei tur a ni a, a mum

pangngai hi 500 mg-in ni khatah vawi hnih ni 7 chhung ei tur a ni. A hnawih chi (gel) hi 35.7 mg-in ni khatah vawi khat emaw vawihnih emaw ni 5 chhung hman tur a ni.

Ulcer hrik neiah chuan Metronidazole 500 mg hi Clarithromycin 500 mg leh pumpuia acid insiam titem thei (PPI)-te nen a inkawpin ni khatah vawi hnih pek tur a ni, heng damdawi inkawp hmanga enkawl na hi triple therapy tih a ni. Quadruple therapy tih a awm leh a, hetah hi chuan Metronidazole 250 mg, Subsalicylate 525 mg, Tetracycline Hydrochloride 500 mg leh Ranitidine 150 mg te inkawp hi ni khatah vawi li ni 14 chhung ei tur a ni. Kawthalo ah chuan 500mg in nikhatah vawithum ei tur a ni. STD natna chi khat Trichomoniasis enkawl nan chuan a mum (Oral tablets) 250 mg hi ni khatah vawi 3 ni sarh chhung emaw, 2 g-in ni khatah vawi khat emaw, a dose rual taka semin (1 g- in) ni khatah vawi hnih ei tur a ni. Laihren 375 mg hi ni khatah vawi hnih emaw 2 g-in vawi khatah ei tur a ni. 500 mg a nih chuan ni khatah vawi hnih ni 7 chhung ei tur a ni. HIV vei hmeichhiaah 500 mg-in ni khatah vawi hnih pek tur a ni.

Naupang tan: Santen, thin vung/pun (abscess)-ah chuan 35-50 mg/kg hi ni khatah vawi 3 a dose rual taka semin pek tur a ni. Kawthaloah chuan 50 mg/kg hi a dose rual taka semin ni khatah vawi 3 pek tur a ni.

A hnathawh dan: Metronidazole hi nitroimidazole class ami a ni a. He damdawi hian bacteria-te DNA tichhiain bacteria-ten an lo thih phah ta thin a ni.

Ei dan tur: Metronidazole hi chaw ei hma darkar khat emaw, chaw ei kham atanga darkar hnih hnuah ei tur a ni a. He damdawi hi a phel emaw, a dip emawa pek loh tur a ni a, tin, thial sawm loh bawk tur a ni.

Side effect awm theite: Metronidazole hian pum nuam lo, ka tui lo, luak chhuak, luhai, lu na, kawthalo, kaih, thluak lama harsatna, mit natna leh a dangte a thlen thei.

Damdawi dang a halte: Metronidazole hi heng damdawite nen hian ei pawlh loh tur a ni - Amprinavir, Disulfiram, Mycophenolate, Tacrolimus, Busulfan, Warfarin, Tegafur.

Nu nau pai/hnute pe lai tan a him em?

Metronidazole hi pregnancy category B ami a ni a, raipuar ei atan a tul a nih chuan a him thawkhat viau a, mahse trichomoniasis avanga enkawl mek tan nau pai tan tirh thla thum chhung chu ei loh tur a ni. He damdawi hian nau hnute pe lai tan eng ang chiahin nge nghawng a neih hriat chian a nih loh avangin fimkhur taka hman tur a ni.

Thin tha lo leh dialysis(hemodialysis)-a dose hman dan tur: Damlo thin tha lo nasa tawhah chuan zawi muanga in-release chi (extended release tablet) hi a tul tawpkhawkah lo chuan hman loh tur a ni. A chiu chi (IV), a mum in-release nghal chi (immediate release tablet) leh laihren ang chi a nih chuan a dose 50%-a tihhniam tur a ni.

Hemodialysis ti lai mek tan damdawi hi ei loh theih loh a nih chuan a dose hi a tul dan azirin pek belhchhah tur a ni.

Reference: www.micromedexsolutions.com

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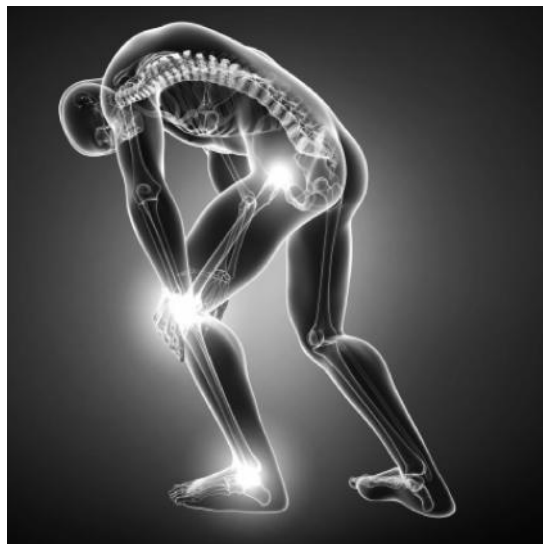
NA CHHÁWKNA (NSAIDs)

Mihring kan han nawmsam loh deuh leh ná, khawsik emaw taksa kham them thum anga kan han awm hian damdawi kan lam hmasak ber zing ami chu na chhawka hi a ni awm e. Mizoten na chhawka kan tiha kan tinzawn ber chu Paracetamol a ni a. Paracetamol ang tho hian Ibuprofen, Diclofenac, Aceclofenac, Aspirin leh hetiang damdawi anga hnathawk chi damdawi dangte pawh kan hmang nasa viau mai. Heng damdawite hi na chhawka damdawi zinga class/group pakhat Non-Steroidal Antiinflammatory Drugs (NSAIDs) ami vek a ni a. Bazarah chuan a damdawi hlangin emaw, damdawi mum/tuia inpawlh sa (fixed-dose combination)-in damdawi company hrang hrangin sumdawna hming hrang (trade name) Larkin, Dolo, Sumo, Calpol, Zerodol, Brufen, Zerodol P/SP, Serra D, Voveran leh hming dang tam takin kan hmu thin a. NSAIDs ho damdawi hi na chhawka tha tak a ni a, hun danga kan lo ziah tawh angin Steroids ho hi na chhawka tha em em, na chhawktu atan chuan Alpha & Omega ang hiala sawi thin a ni a, mahse steroids side effect hi a duhawm lovin a nghawng a pawl thei em em a. Chutianga side effect duhawm lo leh hman rei pawha hlauhawmna em em nei lo, steroids ang em ema chaka hna thawk ni ve lo, mahse na chhawk tha ve em em thote chu a hmingin a tarlan angin Steroids ni ve lo ná, khawsik, hliam leh vung enkawl na damdawi (Non-Steroidal Antiinflammatory Drugs) chungchang, tawi thei ang ber, kim si leh hriat thiam awl thei ang ber turin kan zirho dawn a ni.

Ná, vung leh hliam

A damdawia kan luh hmain tawitein Inflammation avanga kan taksaawm NÁ emaw VÚNG emaw KHAWSIK neih hi a tha reng em tih han sawi phawt ila.

Rilrua chhanna lo awm nghal chu THALO tih hi a ni awm e. Ni e, ná leh vung neih te, khawsik neih te chu thil tha lo leh nuam lo tak, damloa min siamtu a ni. Tu



pawhin hetiang laka fihlim nih hi kan duh vek awm e. Mahse khawvel pianken ve reng chu, kan taksa hi him pial leh hrisel em emin kan thih ni thleng hian a awm reng thei lo tih hi a ni a. 'Ani chu a hrisel lutuk a, a dam kumhlun ta a lawm le,' tia sawi tur pakhat mah kan la awm lo chu a nih hi. A nihna takah chuan inflammation (vúng leh ná leh khawsik) neih hi thil ða em em a ni. A chhan chu kan taksaah thil duhawm lo, kan taksa tana pawl thei thil a awm a ni tih a lanchhuahna a ni a, chutiang natna thlentute doletna hmanraw ðangkai ber pakhat a nih tlat vang a ni. Entirnan, taksaah natna hrik an lo lut a (infection), chu chuan khawsik a siam a, khawsik avang chuan taksa lumna a lo sang ta vak a, chu chuan taksa raldo khawl zing ami CD8+ cytotoxic T-cell hnathawh a lo tichak a, tichuan natna hrik do a chak ta ðin a ni.

Taksa peng khawi lai emaw tihchiat leh hliamin a lo awm a, chu chuan kan thluak kaltlangin na a lo siam vat a, a na thlentute lak bo emaw, keimahni insaseng vat nachang kan hriat phah ðin a ni. Hnathawhnaah perek kan han rap palh hlauh a, kephah a na zawk a, hmanhmawh em ema kan ke kan khai nghal angte hi thil ðangkai tak a ni; ná hre lo ila chu perek kha kan rap thûk tulh tulh ang a, kan kephah chu kan tichhe mai dawn tihna a ni!

A nih leh engvangin nge na chhawkna kan ei si?

A chhanna mawlmang leh awlsam te chu, ná leh vúng, khawsikin kan awm reng thei lo a, kan peihlo bawk. Tin, kan taksa inrelbawl dan pangngaiin heng ná leh vúngte chu a tihreh mai theih loh a, a nasat lutuk emaw, taksa a awm reng chuan kan taksa tan thil pawl zawk a thlen theih vang a ni.

Kan taksa ná, vúng, hliam leh khawsik thlen thei tu tlem han zirchiang phawt ila.

1. Natna hrik: Natna hrik, bacteria, fungi, protozoa emaw, virus kan tih ang chiin kan taksa a han luh hian natna chi hrang hrang an thlen ðin a. Hetiang natna hrikte hi thil nung ve tho an ni a, an awmna hmun apiangah dam khawchhuahna leh inthlahpun dante an dap ve ðin. Damna atana pawimawh ber pakhat chu chaw hi a ni tih kan hre ðheuh awm e. Hetiang natna hrik chi hrang hrang pawh hian mihring taksa chung an luh emaw, vuna natna an thlen dawn chuan chaw kha an mamawh ve tho a, mihring taksa leh timur hrisel tak kha an ei ta ðin a ni. Chu chuan mihringah harsatna chi hrang hrang a thlen ðin.

2. Natna hrik ni lo, kan taksa tihliam a, kan timur hrisel leh ða takte thihna thlen theitu dang leh chu hmuh theih hmanraw chi hrang hrang avanga inzai palhte, kang (burn) te, tuboha kan inchhu palh ang chi te leh accident chi hrang hrang kan tawh palh te hi a ni a. Heng bakah hian mita hmuh mai theih loh radiation chi hrang hrang avangin kan vunah harsatna kan tawh thei bawk. Entirnan, ni sa kan do rei deuh a, nizung chaknaa tel ve Ultra Violet radiation avangin sunburn kan nei phah ðin ang chi te, nuclear radiation leh entirna hrang hrang pawh a awm awm e. A dang leh chu chhan hrang hrang avanga mihring taksain kan mamawh em em Oxygen tlakchhamna (Ischemia) hi a ni bawk.

3. Allergy thlen theitu allergens-te hi taksa harsatna thlen theitu dang leh chu an ni a. Allergy hi chu mihring azirin allergens lakah allergy kan neiin kan nei lo a, entirnan, penicillin damdawi allergy

neiten hre lova penicillin injection-te an lak chuan thil paw tak, nikhaw hre lova awm dêr theihna (anaphylactic shock) a thlen thei a, mi tam tak chuan penicillin allergy an nei miah lo thung. Hetiang vëk hian mi thenkhat chuan badam, cocholate, ei tur leh thil chi hrang hrang allergy an nei thin a ni.

Kan taksaa harsatna chi hrang hrang thlen thei leh chumi nghawng chu kan tarlan takte leh hetiang avanga taksaa lang chhuak (inflammatory response) awm thei tur hian thil pawimawh tak tak an awm a. Chutiang ho chu inflammatory mediators tia sawi thin a ni. Chung ho chu taksa peng hmun hrang hrangah an awm a, an awmna laia taksain hliam a tawk emaw, natna hrik an awm a nih vaih chuan kan thluakah an han zualko nghal vat a, kan thluak chuan a tul angin hma a lo la vat thin a ni.

Inflammatory mediators-te zingah chuan pawimawh em em pakhat a awm a, chu chu PROSTAGLANDINS a ni. Prostaglandins chu chi hrang hrang awmin, hnathawh chi hrang hrang an nei theuh a. Mediators dang chu Histamines, Leukotrienes, Kinins, 5-HT leh a dangte a ni. Prostaglandins bik hi na chhawkna ten hna an thawhna ber a ni a, nakinah kan sawi zau deuh ang.

Inflammation-in (Hliam leh Vúng) a thlente:

1. Kan taksa tina thei natna hrik awmte hmunkhata daha tihchhiat turin a buatsaih a, chutiang hliamte chu an dam leh vat theihna turin kawng a hawng.
2. Kan han tarlan tak inflammatory mediators chi hrang hrangte hian hliam awmna hmunah khan thil tih takngai tak

mai an nei a, chu chu hliam awmna laia thisen zam awm ho an tizau (vasodilation) thin. Thisen dawt a lo zau tak avang hian hliam awmna laiah khan thisen an lo luang/tling hnem ta a ni. Thisen tlingkhawm lo tam bik avang chuan taksa raldo khawl pawimawh tak White Blood Cells (WBC) an lo awm tam phah a, chu chuan chulai vela natna hrik awmte chu chak zawka an thih theihna turin nasa takin a pui a, hei mai bakah hian thisen a tlingkhawm tam chuan oxygen leh chaw tha a lo tam phah a, timur hliam leh thi tawhte a thara thlaka tihdam a nih vat theihna turin a pui baw. Hetia thi tlingkhawm tam bik a lo nih avang hian vung leh hliam lai chu mita han en mai pawhin a lo sen zual ta bik thin a, hei hi medical term chuan Erythema tih a ni.

3. Thisenah hian timur hliamte damna atana tangkai tak antibody proteins a awm a, heng proteins-te hian dan pangngai chuan thisen dawt hi an paltlang thei lo thin a. Mahse hliam awmna lai vela thizen zamte hi mediators-te khan paltlang awlsam turin an lo siam a, proteins-te chuan hliam awmna lai chu an thlen ve theih phah thin. Proteins-te chuan tui an kalpui tel thin a, hei vang hian hliam laiah chuan tui tling a lo tam a, vung (swelling) a lo awm phah thin a ni.

4. Kan tarlan tak Prostaglandins (Kinins pawh telin) chuan thluakah na hriat theihna turin hna a lo thawk baw.

5. Mediators-te hian kan tarlan tak bakah hian an hnathawh pawimawh tak chu, taksa raldo khawl WBC (a bikin neutrophils leh monocytes) te an hipkhawm baw thin a, hei hian natna hrik leh timur thi tawhte an dah bo thin.

6. Prostaglandin leh mediator thenkhatte hian thluaka taksa lumna (temperature) enkawltu chu taksa lumna tisang turin an pui baw a, hei vang hian khawsik (fever) kan lo neih phah thin a ni. (Mihring taksa lumna pangngai chu 37 degree Celcius/ 98.6 degree Fahrenheit a ni.)

Na chhawknâ hnathawh

Natna hrik leh chhan dang avanga hliam leh ná hnathawh leh, a lo awm theih dan te, a awmna atanga tangkai tak takte kan tarlang tawh a. Prostaglandins hnathawh chi hrang hrang kan hre tawh baw a. An tangkaina zawnah chuan an tangkai hle mai; mahses a chin tâwk hi a awm zel a, kan tawrh theih loh chinah chuan an hnathawh tihnêp a, vung, ná leh khawsik an thlen te kan lak kian a ngai thin. NA CHHAWKNA (NSAIDS)-te hi chumi atan chuan an tangkai em em a ni.

Prostaglandin insiam chhuahna atana chemical tangkai tak chu Arachidonic Acid a ni a. Arachidonic Acid atang chuan kawng hnihin a hmaa kan sawi tawh inflammatory mediators a insiam chhuak thin a. Chu kawng pahni zinga pakhat zawk chu Cyclooxygenase Pathway (COX-Pathway) a ni a, pakhat leh chu Lipoxigenase pathway a ni. Lipoxigenase pathway hi inflammatory mediator chi khat Leukotrienes insiam chhuahna a ni a, kan sawi thui vak lo ang. Prostaglandin insiam chhuahna kalkawng zawk Cyclooxygenase pathway zawk hi kan sawi zauh hlek tur chu a ni. He kalkawng pawh hi chi hnih a awm leh a, COX-1 leh COX-2 pathway a ni.

Na chhawknâ Paracetamol, Aspirin, Diclofenac leh a dangte hian an hnathawh ber chu Prostaglandin insiam chhuahna

kalkawng ber, CYCLOOXYGENASE PATHWAY (COX-1 leh COX-2) hi an dang thin a. Motor kawngpui lun tak, leimin nasa takin a block avanga motor eng chi mah a kal tlang thei lo ang chiah hian ná, vung leh khawsik insiamna atana tangkai em em Prostaglandin chu a insiam thei ta lo a. Hei vang hian NA CHHAWKNA an lo ni ta a ni.

COX-1 kal tlanga Prostaglandin insiam ho hian taksaah hna hrang hrang an thawk a, pumpuia acid tam lutuk tur ven te, a tul huna thisen zam tih-tê (vasoconstriction) leh thisen khar (blood clotting) siam te leh kal (kidney)-ah hnathawh pawimawh tak a nei baw a. COX-2 kawng bik zawhte hi na siamtu chu a ni ber a, na chhawknâ tam tak hian heng kawngpui pahnihte hi an dan ve ve avangin COX-1 kal tlanga prostaglandin insiam ho kha hna a thawhtir thei ta lo a, hei vang hian harsatna chi hrang hrang a thlenin adverse effect a lo awm phah ta thin a ni.

Eng huna ei tur nge?

Kan sawi tawh angin Prostaglandin hi chi hrang hrang a awm a, hnathawh pawh chi hrang hrang a nei baw a. Chutiang zinga pakhat chu COX-1 kalkawng hmanga insiam PGE2 hi a ni a. He prostaglandin hian kan pumpuia acid insiam nasa lutuk a veng thin a, chu mai ni lovin pumpui acid laka vengtu leh pawlh daltu mucin inpek chhuahnaa hna tangkai tak a thawk baw a. Na chhawknâ kan tih tam tak hian a PGE2 insiam tur a dan vek avangin pumpuia acid inpe chhuak kha a tam phah a, tin, a vengtu pawh a tlem baw a. Hei vang hian na chhawknâin pum nuamlo a siam thei kan lo tih phah ta a ni.

Hemi a nih avang hian na chhawkna reng reng hi pum ruaka ei miah loh tur a ni a, chaw eikham veleh emaw, chaw ei laiin ei tur a ni. Chumi kan thei lo a, pum ruaka ei ngei kan ngai a nih si chuan tui tam tak in tel tur a ni. Na chhawkna hi hman reng tur a ni lem lo a, (stroke venna atan Aspirin hun rei zawk chhung hman a nih ngawt loh chuan) ná a lo chhuah hunah chauh hman tura chawh (SOS) a ni òhin.

Side effects

Na chhawknate hnathawh òngkai tak COX-1, COX-2 kawngpui dan a lo nih avang hian prostaglandin tam tak hnathawh a buai phah òhin. Hei vang hian taksaah side effect chi hrang hrang a awm phah thei a. Pumpui, kal, beng, mit, chuap, vun, thin, lung, hmui leh kachhung pán leh harsatna chi hrang hrang a thlen thei.

NSAIDS chi hrang hrangte:

PARACETAMOL,
ASPIRIN
PHENYLBUTAZONE & OXYPHENBU-
TAZONE
DICLOFENAC SODIUM
ACECLOFENAC
MELOXICAM
ETODOLAC
IBUPROFEN
FENOPROFEN
FLURBIPROFEN
PIROXICAM
TENOXICAM
INDOMETHACIN
KETOROLAC
NABUMETONE
NAPROXEN
SULINDAC
NIMESULIDE
SELECTIVE COX-2 INHIBITORS

CELECOXIB
ROFECOXIB
VALDECOXIB
ETOROCOXIB

Na chhawkna hman dan tur tlanglawn

- ▶ Na satliah (mild/moderate pain) - Paracetamol, Ibuprofen (dose hniamin, eg. 200 mg)
- ▶ Inzai zawha ná ang chi (post op. or short lasting pain) - Ketorolac, diclofenac.
- ▶ Ruh ná (Musculoskeletal pain) - Paracetamol, Ibuprofen, Naproxen, Ketoprofen, Diclofenac.
- ▶ Arthritis leh Gout - Naproxen, Piroxicam, Indomethacin, Aspirin (dose sangin)
- ▶ NSAIDS allergy neiteah - Paracetamol & COX-2 chauh dang chi. (.coxibs)
- ▶ Naupang na chhawkna atan - Paracetamol, Ibuprofen & Naproxen
- ▶ Raipuar tan - Paracetamol a him ber.
- ▶ Pum òha lo neiah - Paracetamol leh OX-2 chauha thawk hman tur. (.coxibs)

Awle, NSAIDS/na chhawkna hnathawh leh nghawng òha lo a neih theih tlangpui, hriat thiam awlsam tur chin chu kan hre ta a. NSAIDS reng reng hi doctor lehkha/chawh kher ngai loa damdawi lei mai theih a ni mah se, fimkhur taka hman loh chuan nghawng òha lo tak a nei thei a, tin, rei tak ei tur a ni lem lo baw. Hei bakah hian damdawi òhenkhat nen NSAIDS kan ei pawlh hian nghawng òha lo nasa tak a thlen thei baw. Damdawi i lei dawn leh ei dawnin mithiam rawn hmasa òhin la, fimkhur taka damdawi hman hi i mawhphurhna a ni.

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TIGECYCLINE

Trade name: Bactigelin, Protigi, Tigaphar, Tigez, Tize B, Trectabin, etc.

Generic name: Tigecycline

Eng chemical nge a nih?

(4S,4aS,5aR,12aR)-[[2-(tert-butylamino)acetyl]amino]-4,7-bis(dimethylamino)-1,10,11,12a-tetrahydroxy-3,12-dioxo-4a,5,5a,6-tetrahydro-4H-tetracene-2-carboxamide

Eng angin nge kan hmuh thin?

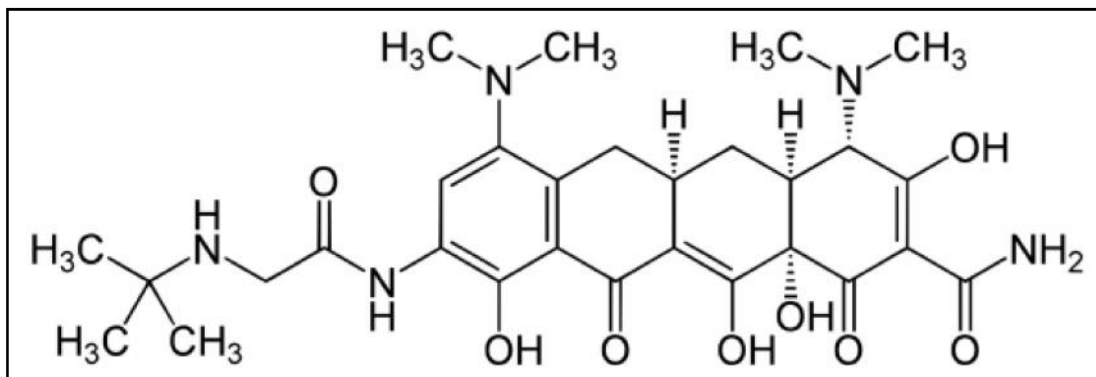
Tigecycline hi inchiu (injection) anga siam a ni.

Eng atana hman nge?

Tigecycline hi antibiotic a ni a. He damdawi hi bacteria natna hrikin a thlen natna - pneumonia, intra-abdominal infections leh skin infections enkawl nana hman thin a ni.

Engtingge hna a thawh?

Tigecycline hi bacteria-a 30S ribosomes-ah invuahin amino acid inbelhbawm tur a veng a, hei hian protein insiam tur dang (block)-in bacteria thang thei lovin a siam a ni. Tigecycline hian bacteria chi hnih - S.pneumonia leh L.pneumophila a that thei bawk a ni.



Engzata ei tur nge?

Puitling tan: Tigecycline hi a hmanna azirin a ei dan tur a inang lo va. Pneumonia-ah chuan 100 mg (IV)-in ni khatah vawikhat inchiu hnuah 50 mg (IV)-in darkar 12 danah ni 7-14 inchiu chhonzawm tur a ni. Vun natna leh pum pán (abdominal infection)-ah chuan 50 mg (IV)-in darkar 12 danah ni 5-14 chhung inchiu tur a ni.

Naupang tan: Tigecycline hi naupangah kum 8 ațanga kum 11 inkarah chuan 1.2 mg/kg (IV)-in darkar 12 danah chiu țhin tur a ni. Naupang kum 12 ațanga kum 17 inkarah chuan 50 mg (IV)-in darkar 12 danah chiu țhin tur a ni.

Upa lamte tan: Tigecycline hi upa lamte tana ei zat tur hi puitling dose pangngai anga pek mai tur a ni a, tihdanglam kher a ngai lo.

Side effects awm thei te:

Kawțhalo, pum ná, luak chhuak, luak leh lu ná te hi a side effect langsar zual a ni.

Damdawi dang nen eipawlh a him em?

Tigecycline hi damdawi dang tam tak nen a ruala taksaa lak luh loh tur a awm a, a lar zual țhenkhatte chu - Warfarin, Astreonam, Imipenem, Metronidazole, Ceftriaxone, Vancomycin, Doripenem, Ethinyl estradiol, Norepinephrine, Piperacilin te an ni.

Rai lai/nau pawm lai tan ei a him em?

Tigecycline hi laihruiah leh hnute tuih a kal tlang theih avangin naupai tan leh naute hnute tui pe lai tan a hlauhawm theih avangin a theih hram chuan hman loh a him ber a ni.

Kal țha lo leh dialysis-a dose hman dan tur:

Tigecycline dose hi kal țhat lohna neite tan siam danglam (dose adjustment) ngai lovin kal function țha pangngaia hman ang thova hman mai tur a ni a, hetiang vek hian dialysis ti lai dam lo tan pawh dose pangngai a hman theih bawk.

References:

www.micromedexsolutions.com

National Formulary of India 2011

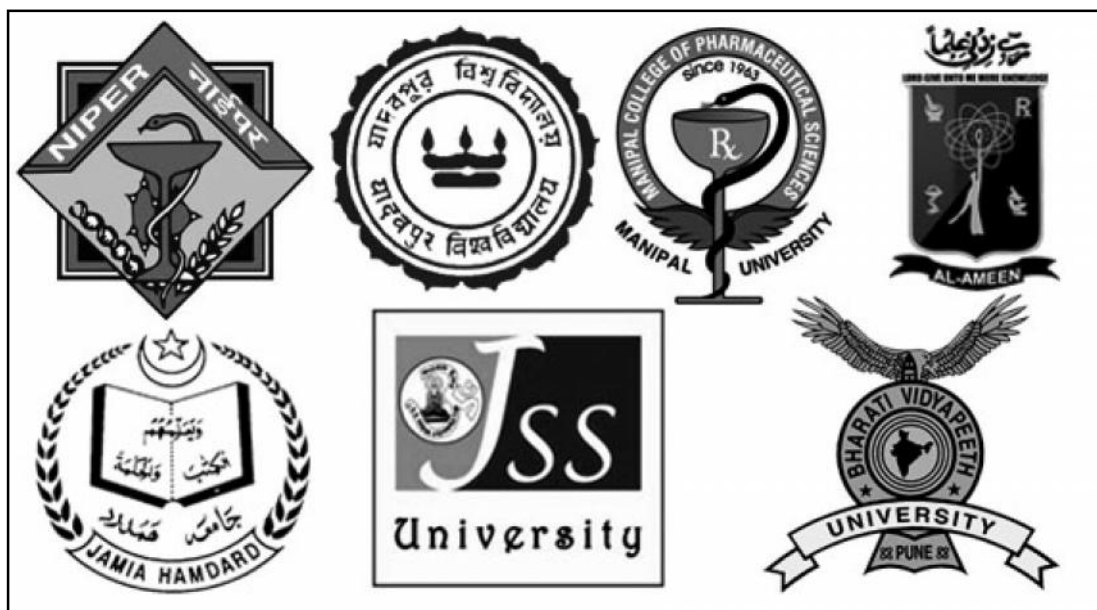
AHFS Drug Information 2013



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PHARMACY PRACTICE CHUNGCHANG

Pharmacy profession hi profession zingah chuan upa ber pawl ti ila, kan sawi sual awm lo ve. Heti taka profession upa a nihna avang pawh hian he profession hian mipui hnenah rawngbawlna tur tam tak a nei a. Damdawi ruangam, pianzia leh siam chhuahna lama thiamna bik nei tura inzirtir kan nihna avang pawh hian damdawi leh a kaihhnawih chungchangah mipuite hnena zirtirna pek hi kan profession mawhphurhna pawimawh tak a ni. Kum 1990 hma lamah kha chuan pharmacy profession sawi apianga rilrua rawn lang hmasa ber chu damdawi siam chhuah, vawnhim leh a control lam hnathawh deuh ngawr ngawr kha a ni thin a. Amaherawhchu, damdawi mum khat ringawt pawh hian information tam tak, pawimawh em em si a keng tel teuh a; entirnan, ei hun dik leh tha, eng nge dose dik tak, eng nghawng tha lote nge a thlen theih, engtia vawnhim tur nge tih leh, hetiang ang chi zawhna awm thei dangte. Heng information pawimawh tak takte hian mipui beng a thleng lo fo thin a ni.



Pharmacist-te hi damdawi siam chhuah aṅanga vawnhim leh sem chhuah thlenga mawhphurtu kan nih avang hian, information pawimawh tak tak kan tarlan takte hi mipui hrilh hre tur hian pharmacist-te bak tling leh thiam tur dang an awm chuang lo. Chu chu hriain mithiamte chuan pharmacy profession kalphung pangngai chu thlak danglamin kum 1996-ah India rama a hmasa ber atan Master in Pharmacy Practice programme chu JSS, Mysore-ah an lo din ta a. Kum 2008-ah ram changkang zawkte tih angin Pharm.D (Doctor of Pharmacy) course chu din a ni ta baw a ni. Chu course din chhan leh thil tum pawimawh em em chu damdawi hmanga inenkawlna (drug therapy) chungchanga a him thei ang ber, a ṅa thei ang ber leh sum sen titem thei ang bera damlo enkawl a, damlo

enkawltute leh mipui vantlang tana zirtirna leh thurawn pek a ni.

Tute nge zir thei?

1. M.Pharm in Clinical Pharmacy/ Pharmacy Practice hi kum 2 zir tur a ni. B.Pharm graduates, PCI recognised institution aṅanga pass chhuak tu pawhin an zir thei a ni. Tin, GPAT score card neite chuan an zir chungin scholarship an dawng thei baw.
2. Pharm.D (Post Baccalaureate): Hei hi kum thum (kum hnih theory leh kum khat chung hospital internship) tur a ni a, PCI recognised institution aṅanga B.Pharm graduates pass chhuak tu pawhin an zir thei a ni.
3. Pharm.D: Hei hi kum 6 (kum 5 theory leh kum 1 internship) zir tur a ni a, pawl 12 science pass chhuakten direct-in an zir thei a ni.

India rama zirna in lar ṅhenkhatte:

M.Pharm Pharmacy Practice zir theihna hmunah hian Pharm.D course pawh hi a zir theih tlangpui.

M.Pharm (Clinical Pharmacy/ Pharmacy Practice)	Pharm.D
NIPER (Mohali, Guwahati, Hazipur) Jadavpur University	JSS University Mysore & Ooty Al-Ameen college of Pharmacy, Bangalore
JSS University Mysore & Ooty Al-Ameen College of Pharmacy, Bangalore	Manipal college of Pharmacy Manipal College of Pharmaceutical Science
Jamia Hamdard University, Delhi	Bharati Vidyapeeth University

Eng hnate nge an thawh tlangpui?

1. Hospital: He course pahnihte hi clinical lam a nih avang hian, a tam thei ang ber damlote nena inkawmna neih a,

damdawi chungchanga damlote hriat tur pawimawh tak tak hrilh hriat (patient counselling) mai bakah, damdawi ṅhenkhatin nghawng ṅa lo (ADR) a

thlente lo chhinchhiah a, zirchian hi an hna pawimawh tak a ni a. Prescription audit leh drug-drug interaction awm theite lo zirchiangin doctor-te nen an thawkho thin a, hei bakah hian dosage adjustment chungchanga tih ngai awmah te, drug information pek chhuah lamah te, hospital pharmacy & therapeutic committee leh damdawi kaihnawih chi hrang hrangah hna an thawk thin a ni. Hemi a nih avang hian a tam zawk hi chuan hospital-ah hna an thawk tlangpui thin.

2. Company: Company hrang hrangahte pawh a thawh theih a. Medical writing lamah te, Pharmacovigilance lamah te, Clinical research lamah te leh

Clinical data management lamah te thawh tur a tam em em a ni.

3. Academia: Clinical practice lama thiamna thuk zawk an neih theihna tura zirilaite train turin college lamah an thawk thei bawk.

Clinical lama hmasawn theihna tura pharmacy course pangngai bakah he course pawimawh tak pahnih duan chhuah a lo ni hi India ram pharmacy profession tan chuan thil lawmawm leh chhinchhiah tlak tak a ni. He course hmang hian nasa takin hriselna lamah mipuite tan rawng kan bawl theihna tura rahbi pawimawh tak a ni bawk.



If we can get people to focus on fruits and vegetables and more healthy foods, we'll be better in terms of our healthcare situation. – Tom Vilsack

A desire to be in charge of our own lives, a need for control, is born in each of us. It is essential to our mental health, and our success, that we take control. – Robert Foster Bennett

He who has health, has hope; and he who has hope, has everything. – Thomas Carlyle

A healthy human environment is one in which we try to make sense of our limits, of the accidents that can always befall us and the passage of time which inexorably changes us. – Rowan Williams

There is one consolation in being sick; and that is the possibility that you may recover to a better state than you were ever in before. – Henry David Thoreau

Cheerfulness is the best promoter of health and is as friendly to the mind as to the body. – Joseph Addison

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STEROIDS

Steroids tih hming kan hriatna chu infiammiten intihchakna atana an hman thin, anabolic steroids hi a ni awm e. Kan sawi turte nen hian chhungkaw khat ami vek a ni a, anabolic steroids ni lovin damlo enkawlna atana hman thin steroids zinga chi khat, glucocorticoids hnathawh leh a nghawng thalo awm theite kan zir Chiang dawn a ni. Heng damdawite pawh hi a nihna ni lo tura hmang (abuse) kan awm nual tho mai.

Steroids chu eng nge ni?

Cholesterol tih hming hi mi tam tak chuan kan hre awm e. Cholesterol hi kan taksaa awm tur zat aia tam a lo awm chuan thil pawl tam tak a thlen thei a, thau lutuk (obesity) avangin natna chi hrang hrang a awm phah thei a, kan thisen zam a hnawh ping thei (arterosclerosis) a, harsatna tam tak a thlen thei a ni. Amaerawhchu, a tel lo chuan mihring hi kan awm thei der lo thung a; a chhan chu kan taksain a mamawh em em steroids chi hrang hrang insiamnaa a bul tumtu ber a nih tlat vang a ni. Taksain a mawmawh chin chiahin a awm ve reng a ngai.

Steroids ho chuan structure bulpui pakhat inang an nei vek a, kan taksain a mamawh hunah heng steroids chi hrang hrang mineralocorticoids, glucocorticoids, mipa steroids (androgens-testosterone) leh hmeichhe steroids (estrogen & progesterone), vitamin D tia kan hriat lar, cholecalciferol awmte hi cholesterol atanga

insiamin taksa peng hrang hrangah mahni hna theuh an thawk thin a ni.

Steroids chi hrang hrangte

Mineralocorticoids chuan kan taksaa tui leh mineral (a bikin sodium & potassium) che vel leh taksa atanga mumal leh awmze nei taka kal (kidney) atanga a inpaih chhuah dan a enkawl a. Mipa leh hmeichhe sex hormones te chuan mipa chu mipa a nihna, hmeichhia pawh hmeichhia a nih ang awm thei turin taksa hnathawh chi hrang hrang, mipaah (entirnan, khabe hmul, hmuihmul leh a dangte) leh hmeichhiaah (entirnan, hmeichhe mumal taka thla tin thi neih ang chi te) a tul angin hna an lo thawk ve bawk a. Chutiang zelin cholecalciferol pawhin ruh leh a kaihhnawihah tangkai takin hna an thawk ve bawk. Glucocorticoids chungchang hi tun tuma kan zir chian tur ber chu a ni.

Mihring kal (kidney) chung chiaha hian adrenal gland a awm a, hei hi kan

taksa glucocorticoids insiamna leh hna thawk tura taksain a mamawh huna adrenal steroids inpek chhuahna a ni. Adrenal gland hnathawh hi kan thluaka hypothalamus leh anterior pituitary-in an enkawl a. Mmihring thisena steroids a tam leh tlem dan azirin Corticotropin Releasing Hormone (CRH) leh Adrenocorticotrophic hormone (ACTH) hnathawhin feedback thluakah a pe a, a ÷ul hunah steroids chu adrenal gland hian a siam chhuak ta ÷hin a, hei hi 'HPA Axis' tia sawi ÷hin a ni. Kan taksa hian glucocorticoids chi hrang hrang a siam chhuak thei a, chung zinga a pawimawh zual chu cortisol, corticosterone leh cortisone te hi an ni. Adrenal gland hian glucocorticoids telin steroids hlawm lian chi thum (corticosteroids) taksa tana ÷angkai tak tak a pe chhuak ÷hin a, chungte chu:

Male sex hormone chi khat Dehydroepiandrosterone (hmeichhiaah hei hi a pawimawh zual bik em em, a tam lutukin a pawi thei a, a tlem viau chuan a pawi thei baw. Mipaah chuan mipa hormone - Testosterone tam tham tak tilmuin a siam), Mineralocorticoids (Aldosterone) leh Glucocorticoids te a ni.

Taksaah eng nge a hnathawh?

Glucocorticoids-in taksa a hnathawh leh damdawi atana hmanna chi hrang hrangte chu:

~ Mihring taksa carbohydrate leh protein hnathawh a enkawl.

~ Taksaah proteins a tikeh darh (catabolism) a, proteins-te chu amino acids-ah a chantir.

~ Proteins chu amino acids-a a chantir hnuah amino acids chu glucose/sugar-ah a chantir leh thei a, hetiang process hi

GLUCONEOGENESIS tih a ni. Hei hian thisenah sugar level sang (hyperglycemia/zunthlum) tak a thlentir thei a, chu sugar chu glycogen angin taksaah a inkhawlkhawm ÷hin a, a nihna ai bak hna a thawh chuan taksaah sugar inchhekkhaw a titam vak thei.

~ Sugar chu thau (fats)-ah a chantir leh thei a. Hei pawh hi a tawh chin chiah a nih loh chuan hriselna atan a pawi thei a, mihring chu a nihna ang bakin a thau vak theih.

~ Thluak a tiharh a, hei hian muthilh theih lohna (insomnia) a thlen thei.

~ Steroids-te hi dose sanga ei chuan natna leh pawn lam thil laka taksa raldo khaw atana pawimawh tak - White Blood Cells level a tihniam ÷hin. Hei hian mihring taksaah natna kai a tiawlsam thei.

~ Kal a÷anga calcium inpaih chhuak a titam a, hei hian ruh lamah harsatna a thlen thei.

~ ÷ul lo leh rei tak chung steroids hi hman a nih chuan taksa mumal tak leh a hun taka Glucocorticoids-in hna a thawh theihna tura enkawltu thisen, thluak leh adrenal gland thlunzawmtu HPA Axis hnathawh a tibuai thei a, hei hian adrenal gland hnathawh dan mumal tak ÷hin kha a ti buai a, pangngai taka function leh turin thla tam tak chung a ngaih phah ÷hin.

~ Glucocorticoids-te hi na chhawka ÷ha em em a ni a, hei hi damdawi atana hman a ÷angkaina ber pawh a ni. Kan taksa hliam emaw a lo awm a, vung insiamna tur atana ÷angkai tak, Arachidonic Acid insiam tur a dan avangin na chhawka ÷ha tak a ni a. Natna ho tē a÷anga natna benvawnahte hian na a

chhawk ṭha em em vek a. Hei bakah hian hliam/vúng (inflammation) awm theihna tura ṭangkai tak tak neutrophills, T-Helper Cells hnathawhte pawh a titem bawk a. Tin, taksa hliam leh na emaw, taksaah pawn lam thil a lo awma inpe chhuak ṭhin Cytokines leh Allergy a awm theihna atana pawimawh em em histamine te pawh a titem bawk. Inflammation chi hrang hrang myositis (tihrawl vúng), osteoarthritis (ruh chuktuah vúng), pericarditis (lung tihrawl vúng), thrombophlebitis (thisen zam (veins) vúng), dermatitis (vun vúng/hliam) ang chi te enkawlna atan a ṭha em em a ni.

** Na chhawkna dang (NSAIDs) heng paracetamol, diclofenac, ibuprofen leh a dangte ho chuan Arachidonic Acid insiam hnuaah vúng/ná (inflammation) a awm theihna tura kalkawng a lo dang ṭhin a, steroids erawh chuan arachidonic acid insiam tur hrim hrim a lo dan sa hlauh thung avangin a na chhawkna hnathawh a chak bik hle a ni.

~ Immunosuppressant ṭha tak a ni a, pawn lam thil reng reng laka kan taksa raldo khawl (immunity) a tihhniam theih avangin organ transplantation, entirnan, kal thlak ngaihte a ṭangkai em em a. Hei pawh hi damdawi anga hman a nihna ṭangkai tak a ni a, kal thlak tawh damlote tan pheih chuan dam chhungin steroids an ei a ngai tawh ṭhin.

~ Immunosuppressant a nih avang hian autoimmune disease (kan taksa cell ṭhenkhatin keimahni taksa vek cell dang tichhiaa an do ṭhin avanga natna awm) kan tih ho, heng SLE, Rheumatoid Arthritis, Sjogren's syndrome, Ulcerative colitis leh a dangte enkawlnaah te hian a ṭangkai em em bawk. Tin, kan taksa hmun hrang hrangah cell injury a lo

awmin, a darh zel tur leh a zual tur vengtu ṭha tak a ni.

~ Na a chhawkna mai piah lamah cancer damdawi anga hmanna pakhat a awm ve a, chu chu thisen cancer chi khat WBC/Lymphatic Leukemia enkawl nan a ni - Cancer awmna chhan Lymphocytes level sang vak a tihhniam theih avangin.

~ Allergy enkawlna (antiallergic) ṭha tak a ni.

~ Taksain a mamawh tawh steroids a insiam loh avanga harsatna Addison's Disease enkawlna ṭha tak a ni (replacement therapy).

~ Heart attack (Myocardial Infarction)-ah hman a ni bawk.

~ Mit natna chi khat Uveitis enkawlna atan mit thlawra siam a ni a, a ṭangkai hle.

~ Asthma enkawlna atan a hipa hip luh chi (inhalation)-a hman a ni a, a ṭangkai hle.

~ Vun natna chi hrang hrang enkawlna atan hman a ni.

~ Ka leh ka chhung natna chi hrang hrang enkawlna atan pawh a ṭangkai hle.

Kan han tarlan tak bakah a hmanna chi hrang hrang a awm thei a, tar lang vek lo mai ila.

Steroids hian hna chi hrang hrang a thawk tih kan hre ta a. Heng a hnathawh, a ṭhen chu han ngaihruat maia taksa tana duhawm lem lo anga lang theite leh ṭangkai tak turte a ni hlawm a. Hetiang zawng zawng hi mumal takin mihring hrisel ṭha pangngaiha chuan a inenkawl vek a ni. Pathianin mihring min siam dana ropui tak mai chu kan taksain ṭha

taka hna a thawh theihna turin taksa peng zawng zawng hi rualkhai takin kan thluak atanga kan tin hmawr thleng hian a inenkawl vek a, chu chu HOMEOSTASIS tih a ni a. Engkim a hun leh hmuna hna thawk a, a hmun leh huna hna thawk thei tura inpe chhuak leh a ÷ul tawh loh huna an chhuahna hmuna lak let emaw, taksa aṅanga inpaih chhuak mai tura sawngbawlin kan taksa peng hrang hrang hian hna pawimawh em em an thawk vek a. Chutia hna an thawh mup mup laia harsatna eng emaw laia a lo awm hian mihringte chu kan lo hrisel lovin kan lo damlo ta ÷hin a ni.

Ṽha lo tak anga kan ngaih, kan taksaá vung/pún/hliam (inflammation)-te pawh hi thil ṅangkai em em an nih ve thona lai a awm bawk a. Kan taksa vung leh hliam laiah chuan thisen a lo tlingkhawm tam a, chu chuan natna avanga kan taksa cell chhe tawh ho kha a thara thlak a, tihdam a nih theihna tura hna thawk thei turin thisen tam zawk tlingkawmah chuan cell thar chi hrang hrang leh proteins an lo insiam a, a hlui leh thi tawhte chu a thara thlakin damna kawnga pawimawh tak a lo ni ÷hin. Mahse chu vung leh hliam chu reh loin awm reng ta se mihring taksa tan a pawh thei daih ve thung bawk. Hetiang hunah hian glucocorticoids-te hi an ṅangkai em em a ni.

Kan taksaá steroids insiam (a bikin glucocorticoids) ho chuan a ÷ul hunah an hnathawh an lantir chat chat zel a. Mihringin ná emaw, hrisel lohna kan neih hunah rang zawka kan dam theihna turin glucocorticoids anga taksaá hna thawk thei, steroids siam chawp damdawi chi hrang hrang kan lo hmang ta ÷hin a ni.

Steroids damdawi chi hrang tam tak zingah entirna ÷henkhat han tarlang ila:

Hydrocortisone (Cortisol) - Cortef, Cortnema, Hydrocortone, etc.

Cortisone - Cort S, Cort H, Efcorlin Inj, Wycort, etc.

Prednisolone - Wysolone 5, Nucort, Delsone, Acticort, Anesolin, etc.

Methylprednisolone - Medrol, Medralone, etc.

Triamcinolone - Amcort, Aristospan, Aristocort, Azmacort, etc.

Dexamethasone - Decdan, Alphadec 30, Decicort, etc.

Betamethasone - A Cort, Acticart, Beta, Betacort, etc.

Fluorocortisone - Floricort, etc.

Deoxycorticosterone

Eng angin nge Glucocorticoids hi kan hmuh?

Glucocorticoids hi inchiu (injection), a mum (tablet), a tui (syrup), vuna hnawih chi (cream, ointment), mitthlawr, hip luh (inhalation, nasal spray) a siam a ni.

Eng hunah nge hman tur?

Kan taksaá steroids pe chhuaktu adrenal gland hian zingkarah glucocorticoidsteroids-te hi an pe chhuak ÷hin a, synthetic steroids-te pawh inenkawl na atan kan ei a nih chuan zingkarah ei theih hram hram a ṅha a ni.

Eng side effect-te nge awm thei?

Steroids hnathawh chi hrang hrang kan tarlang tawh a. An hnathawh ang chi hrang tam tak hi steroids damdawi rei tak chung kan hmang emaw, a ÷ul lo leh nihna loa kan lo hman ve ngawt

chuan a pawl zawngin kan taksaah hna a thawk thei a. Chung zinga thenkhat chu han tarlang leh ila.

~ Steroids reng reng hi wawi khat emaw, wawi hnih lek ei chuan side effect eng mah a nei hman lo a, mahse wawi hnih aia rei zawk kar khat chuang hman a nih chuan side effect chi hrang hrang a thlen thei. Hei vang hian tul lova ka'n ei ve chhin reng reng teh ang tih chi a ni miah lo thung.

~ Steroids adverse/side effect lar ber pakhat chu Cushing's Syndrome (a lema tarlan ang hi) a ni a. Glucocorticoids ho hian taksaah protein level a tihhniam avangin tihrawl a tisawng thei a, sugar level a tisang vak thei bawk a, tin, thau inchhekkhawl a tisang a, hei vang hian hmai (moon face), dar (buffalo hump) leh dul velah thau a titam vak thei. Hei hi thauna tia steroids kan hriat chhan ber pawh a ni a, a nghawng tha lo zawk a ni, thauna damdawi ni lovin!

~ Ruh lamah harsatna (osteoporosis) a thlen thei.

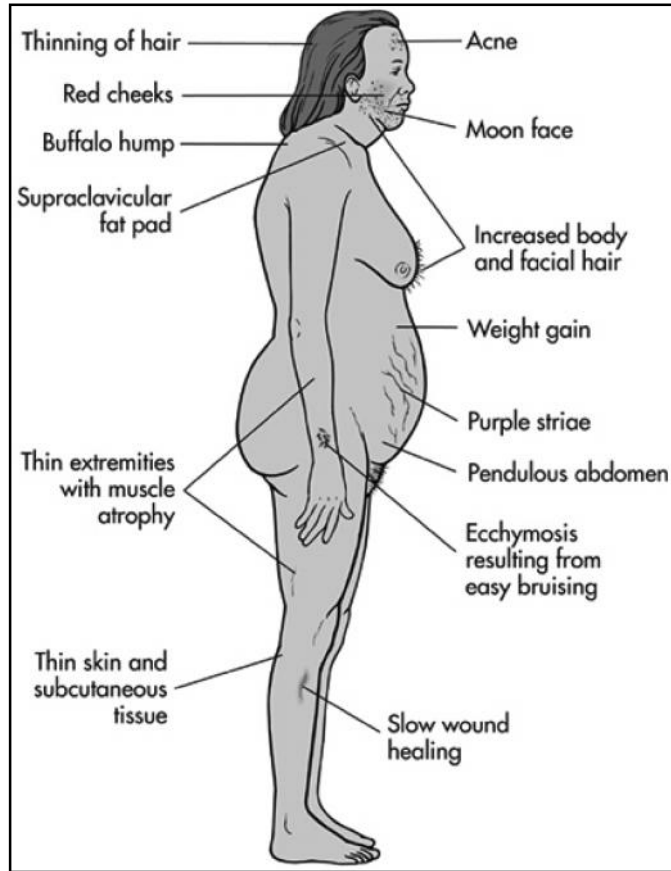
~ Na a dam har.

~ Mitah harsatna a thlen thei.

~ Pumpui/Ril thi leh ulcer a thlen thei.

~ Taksa raldo khawl hnathawh a tihhniam avangin natna (infection) kai a awlsam bik.

~ Kal atanga sodium leh tui inpaih chhuak tur a tihlem avangin sodium



level a tisang vak (hypernatremia) thei. Tin, tui (water) pai a tisang a, hei hian thisen sang chi khat (renal hypertension) a thlen thei.

~ Thluak a khawih tel avangin muthilh theih lohna/mut chhuak thei lo (insomnia), depression leh chaw ei tui vakna a thlen thei.

~ Mipa sex hormone effect tlem a neih theih avangin hmeichhe taksa peng hrang hrangah mipa anga hmul to (hirsutism) a thlen thei a, thi hul/thi neih lohna (amenorrhoea) a thlen thei bawk.

~ Miin glucocorticoids rei tak chhung a hman emaw, tul lova a ei reng chuan a taksa chhungah glucocorticoids siantu

adrenal gland khan taksa tana a lo tih thin steroids siam kha tih kher ngai lo anga ngaiin a hnathawh a tlahniam vek thei a, hei hian harsatna nasa tak a thlen thei a ni. Adrenal insufficiency syndrome, heng chauh ngawih ngawihna, chaw ei tui lohna, luak chhuak leh tihrawl ná leh kham a awm phah thei a ni.

Heng lo pawh hi lung, kal, thisen zam leh taksa hmun hrang hrangah nghawng tha lo a nei thei bawk.

Fimkhur ngaihna leh hman miah lohna turte

Glucocorticoids reng reng hi heng a hnuaia natna hrang hrang kan tarlanahte hian hman fimkhur zual a ngai em em a, hman loh hram a tha.

~ TB leh zunthlum (diabetes mellitus)-ah, thisena sugar level a tihsan avangin.

~ Peptic Ulcer

~ Osteoporosis (ruh lama harsatna) nei damloteah.

~ Mit natna, cataract leh glaucoma-ah.

~ Nau pai lai tan hman loh hram tur, a him lo.

~ Thi nei tha lo/Thi nei mumal lo (amenorrhea)-in hman loh tur.

~ Vaccination la zo hlimah hman loh tur. Vaccine hi kan taksa immunity tisang tura la kan ni a, steroids ho chuan immunity kha an tihnam hlauh thung!

Tunlaiin bazar leh hmun thenkhatah ngona, thauna tih ang reng, damdawi chi hrang hrang a tam hle mai a. Eng damdawi nge tih pawh hriat mang lohte a ni hlawm.

Heng damdawi thenkhatte hi steroids nia hriat a ni (a eng steroids ber nge pawh a hriat chuang law!). Mi thenkhat, ngo chak leh thau duhin kan leiin kan ei mai thin a, taksa tana a hlauhawm theihzia hre chiang ila chu kan leiin kan ei tawp lo ang le.

Steroids-te hi damlo enkawltu doctor-te pawhin damlo serious leh a tul viau a nih loh chuan an hmang mai mai lo tih hriat a tha a, na chhawkna anga hman a nih pawhin damlo dinhmun azirin steroids hman hmain na chhawkna dang (steroids ni lo) side effect tlem zawk, Non-Steroidal Anti-inflammatory Drugs (NSAIDs) an hmang hram hram zel a ni. Cancer kaihhnawih ná leh damlo enkawlana atan te hian a tha em em a, Aizawla cancer hospital pakhata senior resident phei chuan, “Steroids hi cancer natna vei, ná hrehawm lutuk tuar lo tura enkawlana (chemotherapy ni lovin) atan hian Alpha leh Omega a ni e,” a ti hial a ni. Chuti khawpa tha damdawi chu a nihna lo anga hman chuan damdawi hlauhawm tak a ni ve bawk. Thau duh luat emaw, tawngpawng nalh tum lutuk avang te, chak leh sek tum lutuk avang tea steroids hman hian kan taksa tan pawh thui tak a thlen thei tih hriain, a nihna ang taka hman theuh i tum ang u.

Damdawi chungchangah zawhna emaw hriat chian duh nei tan Drug Information Centre, RIPANS-ah a hnuaia address-ah hian zawh theih reng a ni.

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NAUPANGTE LEH VITAMIN

Naupang thang lai chuan vitamin an ei ngei ngei tur a ni tih hi TV-a fakna kan hmuh thin leh, a nawlpuiina kan pawm dan a ni. Kan hriatna hi a dik reng em? Naupang zawng zawng hian vitamin hi an ei tur em ni?

Vitamin tih chu Vital-Amines tih atanga tawngkam lo chhuak a ni a. Kan taksain a mamawh, chaw leh thil dang kan ei leh in atanga kan lak luh ngai, taksa tana pawimawh em em tihna mai a ni. Vitamin ang thova pawimawh em em chu mineral (calcium, iron kan tih ang chi) chi hrang hrangte a ni a. Mineral chu taksain a mamawh tawk taksaah a awm ve reng a ngai thin a ni.

Naupangte hian vitamin damdawi hi an ei ngei ngei tur a ni tih hi mithiam zawkte ngaihdan chu a ni lem lo a. A that dan berah chuan, naupang chuan chaw tha chi hrang hrang, kan taksain vitamin a mamawh angte pai kim thei ang ber hi ei se la, mumal tak leh inmil tawk tak, taksain a ngeih dan tur tak chaw tha (balanced and healthy diet) hi ei thei se la duhthusam a ni a. Vitamin damdawite hi tul lovah chuan ei kher a ngai lo. Mizovin chaw kan tih mai, buh leh a zawlpui, wheat, vaimim leh thlai hnah hring chi hrang hrang, thei, arsa, sangha, sa ti (meat) leh artui te, bawnghnute leh chaw tha dang te hi naupang taksain a mamawh vitamin kan hmuh theihna thangkai em em vek an ni.

Eng ang naupangin nge vitamin leh mineral chu mamawh ta ang?

Nu leh pa buai tak, in lama duh ang chaw siama buatsaih hman lo te, chhungkaw harsat vang emaw, dinhmunin a zir loh vanga duh anga naupang chaw tha ei theilo te hian an taksa mamawh



phuhruk turin ni tin emaw, a ÷ul dan azirin vitamin an ei a ngai a. Heng naupangteah hian hman a ngai thin:

1. Naupang chaw ei mumal lo, chaw ÷ha ei lo leh in-balance taka chaw, thlai hnah leh thei ei tam loah.
2. Naupang chaw lâk ÷ha lo, thil ei thei lo/ei tam lo hrim hrimah.
3. Natna benvawn - asthma, pum lam ÷ha lo leh natna benvawn dang vei naupangah.
4. Naupang, kawngsir leh restaurant vela thil siam leh ei tur sawngbawl sa, wai wai, maggie, chocolate leh a dangte ei nasa lutukah.
5. Naupang sa ei ngai lo (vegetarian) leh bawnghnute lam chi ei/in ngai miah lovah te.
6. Carbonated drinks kan tih Coca Cola, Sprite, Fanta leh a dangte hian vitamin leh mineral pawimawh taksa a÷anga inpaih chhuahna a tih tam theih avangin hetiang ang chi in nasa ÷hin naupangteah.

Naupangte tan eng vitamin nge ÷ha?

1. **Vitamin A:** Vitamin A hi ÷ha taka naupang taksa insiam a, an ÷hanna atan a pawimawh hle a. Vun leh mit hrisel tak an neihna atan te, timur leh ruh insiamna atan leh taksa natna hrik dotu (immunity) atan a pawimawh hle. Bawnghnute, cheese, artui, thlai hring ni lo, rawng rawng nei chi heng carrot, bahra ang chi te hian vitamin A an pai tam.
2. **Vitamin B:** Vitamin B hi chi hrang hrang a awm a, Vit B2, B3, B6 leh B12 te hi taksa hnathawh peng hrang hrang tan an ÷angkai hle a, chakna insiamna atan,

thisen mumal taka taksa peng hrang hranga an insemdarhna atan leh thluak hnathawh atan te an pawimawh em em a ni. Sa ti, arsa, sangha, artui, bawnghnute, cheese, bean leh bekang leh bete ang chi te hi vitamin B kan hmuhna ÷ha tak a ni.

3. Vitamin C: Vitamin C hi naupang tihrawl leh ruhchuktuah leh vun ÷hanna atan te a pawimawh em em a. Theithur chi hrang hrang, ser, kiwi, strawberry, tomato (khawchhak lam unaute chuan bawkbawnthur an ti!) leh thlai hring hel ei theih broccoli te hi Vitamin C hmuhna ÷ha tak a ni.

4. Vitamin D: Vitamin D hi naupang ruh leh ha insiamna atan a pawimawh em em a, taksain a mamawh em em Calcium hnathawhna atan a pawimawh hle baw. Bawnghnute leh sangha, a bikin mekerel leh salmon te hi vitamin D hmuhna ÷ha tak a ni a. Ni (sun) hi Vitamin D hmuh theihna ÷ha leh awlsam ber a ni.

5. Calcium: Calcium hi ÷ha taka naupang ruh leh ha ÷hanna atan a pawimawh em em baw. Bawnghnute, cheese, tofu ang chi te hi calcium tamna a ni.

6. Iron: Iron hi thisen hnathawhna atan a ÷angkai em em a, hmeichhe tleirawl ÷hanthi neiah te hian a pawimawh zual. Keini ang ram ÷hang mekah chuan naupangteah iron tlakchhamna a tam em avangin central sawrkar hmalaknain sikul hrang hrangah iron leh folic acid a thlawna naupang pek ÷hin a ni.

Vitamin-te hi uchuak tak leh tam lutuka naupang pek hi a ÷ha ber lo a, a

bikin Vitamin A, D, E leh K phei chu fimkhur a ngai zual a. A tawh chiaha pek a nih loh chuan naupangah nghawng tha lo zawk a nei thei a ni.

A tir lama kan tarlan tawh angin naupang tana vitamin hmuhna tha ber chu chaw tha a ni a. Chaw tha pawh chu inpawlh tawh tak leh taksain a mamawh tawh chauha pek a tul bawh. Kan ramah chuan Vitamin hmuhna tha ber chu thlai leh thei chi hrang hrang te, chaw chi hrang hrang, buh, wheat, vaimim te hi a ni a. Keini ang tlangram, kan thlai leh thei pawh chemical leitha hmanga chawm la tam lutuk lohna angah phei hi chuan kan chawhmeh chi hrang hrang hi thianghlim takin siam ila, chawhmeh leh thei hel ei theih ang chi te, tlak kan tihte hi vitamin hmuhna tha em em vek a ni. Chaw kan han tih pawhin thau pai tam lo thei apiang a tha ber zel a, chaw chi hrang hrang a tam thei ang ber pek hi naupang tan chuan duhthusam a ni. Naute/Naupang chu vawi khatah chaw pe tawh lovin, a chi tam thei ang kha tam lo te tein ni khatah pek fo a tha zawk. Naupangin chaw ei duh loh deuh a lo neih pawha beidawng mai lovin, kan chawhmeh siam dante chu thlak danglam deuhin pek leh mai thin tur a ni. Engpawh ni se, damdawi reng reng hi chu kan mamawh hun chu awm mah se a lova awm theih chung chu awm tum a tha tih kan hre awm e.

Vitamin pek dawna hriat tur tlem

1. Naupang khawih leh ban phakah vitamin dah ngai suh.
2. Naupangin chaw a ei tha duh ngang lo a nih chuan, a ei duh zawng nepnawi dang pe mai lovin vitamin pe zawk thin ang che.
3. Naupangin damdawi dang ei lai a nei a nih chuan pharmacist emaw, doctor hnenah i vitamin pek tur nen pek kawp a pawh leh pawh loh zawt hmasa thin ang che. Damdawi tam tak ei kawp hian damdawi pakhat zawk hnathawh a tihniem emaw, a tichak vak thei a, taksa tan a hlauhawm thei.
4. Naupangin vitamin mum leh tui lem harsa a tih chuan vitamin thial/ei theih chi pe ang che.
5. Doctor-in pek tur a ti a nih loh chuan naupang kum li hnuailam tan multivitamin hi hman loh a him.

Mumal taka chaw ei hi naupang thanna leh taksa insiamna atan a tangkai ber a, miin tha an tih vang emaw, TV leh thil danga naupang damdawi tha tia faknate hmang mai lovin naupang hnenah chaw tha pe thin ang che. Naupangte hriselna hi nu leh pa leh a enkawltute kutah thui tak a inngat a, fimkhur takin damdawi hmang thin ang che.



Rest when you're weary. Refresh and renew yourself, your body, your mind, your spirit. Then get back to work. – Ralph Marston

It takes more than just a good looking body. You've got to have the heart and soul to go with it. – Epictetus

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GENERIC LEH BRANDED DRUGS

Damdawi pakhat hian hming chi hrang tam tak a nei thei a. Damdawi chu hmuh chhuah/siam chhuah (Discovered/Synthesized) a nihin **Chemical Name** a nei phawt a. Chemical name chu a damdawi siam tura atom leh molecules-te inrem dan (chemical structure) aṅanga vuah a ni. Chemical name-te hi a seiin, hriat leh chhinchhiah harsa tak a ni ṭhin a, chuvangin a siam chhuaktuten an chhinchhiah awlsam nan **Code Name** (Entirnan, RU 486 etc.) an pe ve leh ṭhin bawk. Tichuan chu damdawi chu enchhinna chi hrang hrang hmangin a ṭhat tawk leh tawk loh te, a him leh him loh te finfiah a ni a. Laboratory baka ran leh mihring thlenga an enchhin hnua ṭha tawka ngaih a nih chuan hetiang lama thuneitu Food & Drug Administration (FDA, USA), Central Drugs Standard Control Organization (CDSCO, India), etc. ten damlo enkawlna atana hman phalna (approval) pek a ni ṭhin. Hetianga hman leh hralh chhuah phalna pekte hian hming chi hnih an nei leh



ṭhin a, chu chu **Generic Name** leh **Brand Name** an tihte hi a ni.

Generic name chu damdawi nihna tarlang thei leh khawvelina official-a a pawm hming a ni a. A tlangpuin generic name-ah hian a nihna hriat theihna tur a inphum tel ṭhin. Thisen sang damdawi chi khat, thisena thau awm tihnam thei (Cholesterol lowering drugs)-te chu an generic name tawpah 'Vastatin' tih dah a ni ṭhin. Entirnan, Atorvastatin, Lovastatin, Pravastatin, Simvastatin, etc. Heng damdawi hmingte hi generic name an tih chu a ni. Tin, generic name hi Non-Proprietary Name tiin an sawi bawṭ ṭhin.

Ram hrang hrangte hian damdawi generic name an vuah dan a inang vek lo va. A ram azirin generic name vuahtu/phuahtu a inang lovin, damdawi inang reng pawh a generic name a danglam thei a ni. Khawvelina generic name-a a pawm leh kan hman lar ber hi International Non-Proprietary Name (INN) hi a ni a. INN chu World Health Organization (WHO) hnuai mithiam thlankhawm (Expert Committee) an din tena an vuah a ni. Hetih lai hian United States chuan generic/non-proprietary name vuahtu United States Adopted Name (USAN) Council a nei a, England pawhin British Adopted Name (BAN) a nei bawṭ. Na chhawkna chi khat kan hman lar em em chu 'Paracetamol' a ni a. Paracetamol chu WHO-ina Generic name/International Non-Proprietary Name (INN) atana a pawm a ni. A chemical name chu 4-Hydroxyacetanilide a ni. Hetih rual hian USA leh Japan-ah chuan 'Acetaminophen' tih a ni ve thung. Acetaminophen chu Paracetamol tana United States Adopted Name (USAN) a ni tihna a ni. Chuvangin USA leh Japan-ah chuan

Paracetamol ni lovin Acetaminophen tiin official zawng zawngah chuan ziah a ni.

Chutiang bawkin damdawi siamtu company-ten an damdawi siam chu **Brand Name/Trade Name** an vuah ve leh a. Heng brand/trade name-te hi company-ten an damdawi siam chhuah chu chhinchhiah a awlsam zawk nan (identification) te, a hming lam awlsam zawk nan te leh kawng dang dang atan vuah an ni ṭhin. Heng brand name-te hi mi dang brand name-te nen a inang em tih te, hriat pawh awlsam a ni em tih te an endik hnuah phalna (approval) pek chauh an ni. Entirnan, Crocin chu na chhawkna 'Paracetamol/Acetaminophen' an siam atana GlaxoSmithkline Company-ina brand name an pek a ni. Paracetamol/Acetaminophen chu Generic/Non-proprietary name a ni a, Crocin chu brand name a ni. Tichuan Crocin tablet kan tih chuan Paracetamol kan tihna a lo ni ang. Brand name hian damdawi product hriat hranna (identification) leh a hming lam awlsamna piah lamah patented rights leh exclusivity (neitu/hmu chhuaktu) nihna a kawh tel theih avangin Brand Name leh Generic Name piah lamah hian Branded Drugs leh Generic Drugs awmzia leh danglamna kan zirchian deuh erawh a ṭul ang.

Generic Drugs leh Branded Drugs

A hma lama kan tarlan tawh angin damdawi thar hmuh chhuah hi a hautakin, sum leh hun tam tak sen ngai a ni a. Sawrkar emaw, company-in emaw sum tam tak thàp (invest)-in a zirchianna atan pawisa an seng a. Damdawi thar hmuh chhuah a lo nih takah chuan rim taka thawktu leh sum tam tak sengtu chuan a hlawkna pawh an tèt a ṭul ṭhin a ni. Chutih rual erawh chuan an damdawi hmuhchhuah kha

damdawi tha leh pawimawh tak mai a lo ni thei a. Damlo tam takina an dampui tur leh an mamawh em em a lo ni thei a ni. Chutiang a lo nih a, a siam theihna leh phalna (exclusive rights) chu Company pakhat chauhina a lo neih si chuan a mamawhtu, khawvel hmun hrang hranga damlote hnen a thleng zo lo ve thei a ni. Ram hrang hranga thawn darh tham an siam theih si loh va, thuneihna pumhlum an neih miao si chuan thil tha lo tak a ni dawn a ni. Chuvangin sawrkar chuan a hmu chhuaktu hnena a phu tawk lawmman pe chung si a, a mamawhtuten an dawn theihna ni bawk si tura rorelna inbuk tawk (balance) a lek kawh a tul ta hle a ni.

Rim taka thawk a, sum tam tak senga research bei a, damdawi thar hmu chhuaktuin a hah leh thawhrim man a tel hmaa sawrkarin a duh duh siam theih tura kha damdawi kha a phalrai mai chuan nghawng tha lo zawk a hring thei a. Hetianga tih a nih chuan tu mahin sum leh hun sengin research an ti duh tawh lo ang a, chu chuan damdawi thar leh tha zawk hmuh chhuah zelna tur kawng a chhu chat vek dawn tihna a ni. Hei hi hriain sawrkar chuan damdawi thar hmuh chhuahna atana research beitate hnenah an lawmman atan an damdawi hmuh chhuah chung a thuneihna leh neitu nihna pumhlum kum eng emaw zah atan a pe thin a. Hei hi patented rights leh exclusivity an tih chu a ni. Hetianga neitu nihna pumhlum hi kum 20 chhung atan pek an ni thin. Hemi kum 20 chhung hian anmahni chauhvin kha damdawi siam theihna leh hralh chhuah theihna an nei a. An phalna lova mi dangin an lo siam chhuah leh hralh chhuah kha dan hmangin a khap tlat a ni. Tichuan rim taka a thawh rah chu kum 20 chhung dan

hmangin a tel phalsak a lo ni ta a. Chu an hmuh chhuah (Patented drug/Innovators product) chu brand name vuahin zawrh chhuah a lo ni ta thin a ni. A tlangpuiin heng innovators product/branded product an tih ho hi chu a man pawh a sang deuh thin. A siam chhuaktu (innovator)-in thuneihna a neih tlat avang leh mi dang tu mahin an siam ve theih loh avangin a man tihniamtur elpui (competitor) a nei tlat lo a ni.

Kum 20 a lo ral erawh chuan chu an neitu nihna (patented rights & exclusivity) chu a lo tawp ta a. Kha damdawi ang kha mi dang pawhin an lo siam ve thei ta a ni. Hetianga branded drugs-te patent rights & exclusivity a lo tawp a, company dangin an lo siam (copy) ve kha generic drugs an tih chu a ni. Generic drugs-te hi brand name (innovators product) drugs-te nena inang, a hnathawh dan kawng engkima danglam lo leh a tlukpuite an ni a. Generic drugs-te hian branded drugs-te hi an pianzia (shape), rawng (colour) leh a rim/taste (flavour)-ah erawh an copy tur a ni lo thung. Generic leh branded drugs-te hi inang tih ni mah se, an man erawh a inthlau hle thung. Generic-te hi an man a let tam takin a tlawm zawk thin. Ram thenkhatah thei chuan a let sawm (10 times) aia into hleihte an ni (Cameron et al., 2012). A tlangpui thu-ah erawh chuan patent hun a lo ral a, company dangin khatiang damdawi an lo siam ve theih takah chuan branded drugs-te pawh an man a tlahniam ve thin.

Engvangin nge generic drugs-te hi branded drugs-te aia nasa taka a tlawm theih?

Damdawi inang reng si, eng vangin nge an intlawm hleih tak? United States-

a Congressional Budget Office phei chuan 'branded aia generic drugs miin a lei aṭangin USA chuan kum khatah US Dollar Billion 8-10 a hum (save) thei a ni' a ti (USFDA, 2014).

Generic drugs siamtute hian damdawi hmu chhuaktuin enchhinna hrang hrang a neihte kha a tih ve a ngai tawh lo va. A hnathawh dan (Pharmacological activity), laboratory, rannung leh mihringa test an lo neih tawh data kha a ring ve thei a ni. A hmu chhuaktuin heng zawng zawng a paltlang nana sum tam tak leh kum 10-15 thleng a lo sen kha a pumpelh a. Chuvangin research tihna atan sum leh hun khawhral a ngai ve ta lo a ni. A tih tur awm chhun chu a hmu chhuaktu siam (Innovator's product) nen khan a inang em tih chiaah a en a ṭul a. Hetianga test neih aṭanga a inang a ni tih an finfiah theih a, damdawi quality ṭha leh him tawk an siam theih chuan thuneituten an lo pawmsak mai ṭhin a ni. Hei mai bakah hian, patent hun a lo ral chuan company tam takin branded drug copy kha an lo siam ve a, inelna (competition) a lo awm takah chuan damdawi man pawh a tlahniam duai duai ṭhin a ni.

Generic drugs-te hi man tlawm zawk mah se, a branded version nena intluk tura duan leh enchhin vek an ni ṭhin. Damdawi intluk leh intluk loh hriatna hi 'Bioequivalency test' an ti a. Generic drug siamtuten an damdawi siam chu Branded drugs nen a intluk (Bioequivalent) a ni tih an finfiah ngei tur a ni a. Damdawi pahnihte hi 80-125% (Bioavailability)-a an intluk a nih chuan Bioequivalent atana pawm an ni ṭhin. Hetianga enchhin leh finfiah thlap an nih ṭhin avangin generic drugs-te hi branded

drugs-te nen intluk tlang ngei tura ngaih an ni.

Engtin nge damdawi zingah generic leh branded drug (innovator's product) kan hriat hran ang?

He zawhna hi chhan a har angreng khawp mai. A chhan chu generic drug siamtu ṭhenkhatte hian an damdawi siam hi brand name an pek ve tho ṭhin vang a ni. Kan hriat tur chu damdawi brand name nei zawng zawng hi a siam chhuaktu siam (innovator's product) a ni vek kher lo tih hi a ni. Entirnan, Paracetamol chu a siam chhuaktu chu McNeil Consumer Healthcare (Johnson & Johnson hnuai a mi) a ni a. A siam chhuaktuina brand name a pek chu Tylenol tih a ni. Tichuan Tylenol chu innovator's brand name a ni a, Tylenol tih chu Paracetamol tihna a ni. Tunah erawh chuan Paracetamol patent hi a tawp tawh avangin company hrang hrangin a generic version an siam tawh a. Heng generic version-te hian brand name chu nei ve bawk mah se, a man hi a tlawm tawh hle a ni. Chuvangin innovator's brand leh generic hriat hran awlsamna ber pakhat chu a man (price)-ah a ni.

Innovator's Branded Drugs ṭangkaina:

Branded drugs-te leh generic drugs-te danglamna kan sawi a. Branded drugs-te man a to nasatzia kan hre tawh bawk. Amaherawhchu, branded drugs-te hi a la awm zel dawn a, a awm a ṭulna pawh tam tak a awm ve bawk. Patent leh exclusivity kan tih hi damdawi hmu chhuaktu hnena pek a nih loh chuan damdawi thar leh ṭha zawk hmuh chhuahna kawngah research a ṭhuanawp

dawn a. Natna tam tak, a tihdamna tur kan la neih lohte enkawlna tur damdawi thar hmu chhuak tur pawhin company leh a thawktuten thâ an seng kher lo vang. Chuvangin, rim taka thawktute tana malsawmna a nih miau avangin leh hna thawktuten an thawhrim man an tel hi thil tha tak a ni. Amaherawhchu, patented rights-te hman sualna tur erawh chu ven a t̄ul hle thung a ni.

Generic drugs-te kan mamawhna

Branded drugs-te hi kan mamawhin leh an pawimawh hle rualin generic drugs-te hi rethei zawk leh damlo harsa zawkte tan chuan malsawmna a ni ve thung. Damdawi hmu chhuaktu leh siam chhuaktu company-ten neitu nihna an neih an hmang sual tur leh damdawi man sang lutuk tur venna atan te bakah, mi harsa zawktena kan ban phaka damdawi a awm ve theihna chu generic drugs-te hi an ni.

Case Study: Anticancer drug - Nexavar

Sorafenib Tosylate (Generic name) hi kal (kidney) leh thin (liver) cancer enkawlna ber atana hman (1st line drug) damdawi a ni a. He damdawi hi Germany company lian Bayer Corporation-ina an siam chhuah niin India ramah pawh neitu nihna (patented rights) kum 2021 thleng atana pek an ni. He damdawi hi Bayer hian Nexavar (Brand name) tiin a zuar chhuak a. He damdawi hmanga Cancer veite enkawlna man hi thla khatah Rs. 2,80,428 (*Pharmabiz, 2014*) lawih a ni. Dan ang chuan he damdawi

hi kum 2021 hma chu Nexavar tih hmang chauh va zawrh chhuah theih a ni a, mi dangin an siam ve thei lo.

He damdawi hi Indian Patent Office (IPO)-in neitu nihna Bayer hnenah lo pe tawh mah se, mipui tana tha zawk nia hriat a nih avang leh Indian Patent Act, 1970 Section 84-in a phal angin, man tlawm zawk (generic version)-a siam phalna, Compulsory Licence (CL) chu Natco Pharma, Hyderabad hnenah kum 2012 March thla khan a pe a. Tichuan he Sorafenib Tosylate generic drug, Natco Pharma-ina a siam hmanga cancer veite enkawl an nih chuan thla khatah ₹ 8,880 aia tam lo an seng dawn chauh a ni. Hetih rual erawh chuan Bayer-te hi IPO-in patent a lo pek tawh a nih avang erawh chuan Natco Pharma-te hian an hralh chhuah at̄angin 6% royalty chu thla thum danah Bayer hnena pe tura tih an ni. Tin, Natco hian cancer vei, rethei zual kum tin mi 600 hnenah he damdawi hi a thlawna pe tura tih an ni bawh.

IPO thutluknaah hian Bayer chu lungawi lovin Intellectual Property Appellate Board (IPAB), Chennai hnenah May ni 4, 2012 khan an zualko va (*Economic Times, 2012*). Amaherawhchu IPAB pawh chuan Natco Pharma hnena phalna an pek hi March, 2013 khan an rawn nemngghet ta zawk a. Bayer-te hian an lungawilohna hi Bombay High Court-ah thlen leh mah se, Bombay High Court pawh chuan July 2014 khan IPO-ina Compulsory Licence an pekna hi a rawn nemngghet leh ta tho a ni (*Pharmabiz, 2014*).



K. Zohmingmawii, BA, LLB

THE NARCOTIC DRUGS AND PSYCHOTROPIC SUBSTANCES ACT 1985

The Narcotic Drugs and Psychotropic Substances Act 1985 (NDPS Act) hi kum 1985 aṅanga hman ṅan niin, ‘narcotic drugs’ leh ‘psychotropic substances’ te khap (prohibition), khuahkhirh (control) leh dan mumal taka kaihhruaina (regulation) siam a ni. Hun inher danglam zelah mamawh dan azirin ṅum thum (1988, 2001 leh 2014-ah) siam ṅhat (amend) tawh a ni.

He Act-in Narcotic drugs nia a sawite chu coca leaf, cannabis, opium, poppy straw te bakah he’ng hmanga license tel loa ruih theih thil siam chhuahte an ni a. He Act hnuaiah hian damdawi ruihtheih thil hman leh siam chhuah bakah hralh a phal lohte chu a list siam a ni bawk. He dan hmang hian he’ng ruihtheihthil kan sawi takte hi kaw/nei (possession), ruih nana hman/ei (consumption) leh hralh (sale) te hrem leh man theih a ni.



Engte nge man/hrem theih?

A hmaa kan sawi tak ang khan damdawi hman sual laka dan mumal tak hmangin NDPS Act hnuaiah hian dan bawhchhetute chu man leh hrem theih a ni a. He’ng ruihtheihthilte hi a ruitu mai bakah ruih theiha siam chhuaktu te, a hralhtu leh a dahṅhatu (warehousing) leh a siamna leh semdarhna leh ṅul danga pawisa thawhtu (financing)

bakah, heng ruihtheihthil thenkhat (eg. ganja) te license tel loa ruih nana chìn (cultivate) thleng a khap bakah a hrem thei baw a ni. A hremna nat zawng hi drug quantity azirin a nain a na lo thei a. Quantity thuma then niin chungte chu small quantity, less than commercial leh commercial-ah te then a ni. A drug azirin category hrang hranga awm zat hi a danglam ve baw. Hetia category hrang hrang then hi sorkar mawhphurhna a ni a, kan hriat tlanglawn deuhthe hmangin entirna lo pe ila:

1. **Codeine:** small quantity - 10 grams; commercial quantity - 1 kg
2. **Ganja:** small quantity - 1 kg; commercial quantity - 20 kg
3. **Heroin:** small quantity- 5 grams; commercial quantity - 250 grams
4. **Morphine:** small quantity - 5 grams; commercial quantity - 250 grams

Small quantity leh commercial quantity inkar amite chu less than commercial-ah dah an ni a. Ruihtheihthil mante chu a quantity an enfel hnuah a tam dan azirin hremna pek theih pawh a nain a na lo thei a, tin, a damdawi azirin hremna hi a danglam ve zel baw. Dan hmanga hremna hi thla 6 chung lungin tàn bakah cheng sing khat thleng chawitir theih aṅanga kum 20 thleng lungin tàn leh cheng nuai chuang thlenga chawitir theih a ni. Entirnan, kan hriat tlanglawnte zing ami opium leh cannabis-ahthe hian a hrem theihna chu hetiang hi a ni:

Small quantity: Hrehawm taka lungin tàn bakah pawisa fai cheng sing khat thleng a chawin a chawin lo thei (Up to 1 year rigorous imprisonment with/without fine up to ₹ 10,000).

Less than commercial: Hrehawm taka lungin tàn bakah pawisa fai cheng nuai khat thleng chawin emaw chawin lovin (Up to 10 years rigorous imprisonment with/without fine up to ₹ 1 lakh).

Commercial quantity: Hrehawm taka lungin tàn bakah pawisa fai cheng nuai khat aṅanga nuai hnih inkar chawin (Rigorous imprisonment between 10-20 years and fine between ₹ 1-2 lakh).

Tin, opium, poppy, coca/cannabis plant kan tithe hi license tel loa chìn (cultivation) bakah siam chhuah emaw, hralh, sem darh, lei leh dahthat thlengin he dan hian a khap tlat a. Miin license a neih a, license-in a phal baka a hmang bawrhbang a nih chuan kum 10 aṅanga kum 20 inkar hrehawm taka lungin tàn (rigorous imprisonment) bakah ₹ 1-2 lakh pawisa chawitir theih a ni. Heng damdawi hman phal lohte thawn chhuah leh lak luhte (export and import) hi khap a ni baw a, dan bawhchhetu chu kum 1 aṅanga kum 20 inkar lungin tàn tir theih a nih bakah ₹ 10,000 - ₹ 2 lakh pawisa chawitir theih a ni baw a ni. Court-in ṭul a tih chuan a mi mante chu medical treatment la turin thu a pe thei baw a ni.

NDPS Act chapter IV-ah hian he dan hnuaia damdawi hman a khapte leh a hremnate tarlan a ni a. Chapter V-ah hian a man theih dan leh eng anga bawhzui tur nge a nih tih a tarlang baw. Tin, sec 36 NDPS Act hnuaiah sorkar chuan a ṭul leh pawimawh a tihnaah Special Court a din thei a. Special court a rorel tur hian sorkarin judge pakhat a ruat ṭhin a ni. NDPS Act hnuaia dan bawhchhetute hrema atana kum thum leh a aia tam chin lungin tàn theihna te chu he Special Court chiah hian ro a relsak thei a ni. Complain lo lutte chu uluk taka bawhzuia zir

chianna (investigation)-te a tih zawh hnuah ṭul a tih angin hremna a pe ṭhin a ni. Tin, first class Magistrate emaw, sorkarin thuneihna a pek bik Second Class Magistrate-in he Act hnuaiia phal lohte miin a ti nia a rinhlelh chuan search warrant pein, chhun emaw zanah pawh, khawi hmunah pawh a chhuitirin a mantir thei a ni. Tin, warrant tel loin police constable aia rank sang officer-in rinhlelh a neih chuan a chhuiin a man thei bawk a ni. A man theih dan hi kawng tam tak sawi tur a awm ang a, kan hriat tlanglawn turah hian duhtawk mai ila.

NDPS Act hi damdawi ruih theih hman dik loh leh hman sual theih laka

mipuite venna atana dan siam a ni ber a. He dan hmang hian narcotic drug-te mumal taka khap leh a ṭul dan azira license hmanga siam theihna leh hman theihna dan siam a ni a. Amaherawhchu tunlai khawvel inthlak danglam zelah khawvel mamawh a puhruk zawh lohna kawngte pawh a awm ve leh zel a. Heng narcotic drugs and psychotropic substances kan tihte hi damdawi thilah mamawhna a awm ve avangin khap bur hi thil theih loh a nihna lai awm a. Chuvangin NDPS Act hnuaiia hian a ṭul dan azira hman leh siam chhuah theihna license pek a, a dik loa hmangtute man leh hremna pekte hi mumal taka siam a ni.



*Hearty laughter is a good way to jog internally without having to go outdoors.
–Norman Cousins*

I know a man who gave up smoking, drinking, sex, and rich food. He was healthy right up to the day he killed himself. – Johnny Carson

It's better to be healthy alone than sick with someone else. – Phil McGraw

*Looking after my health today gives me a better hope for tomorrow.
– Anne Wilson Schaefer*

Health is the soul that animates all the enjoyments of life, which fade and are tasteless without it. – Lucius Annaeus Seneca

*A man is not rightly conditioned until he is a happy, healthy, and prosperous being; and happiness, health, and prosperity are the result of a harmonious adjustment of the inner with the outer of the man with his surroundings.
– James Allen*

I just want to be healthy and stay alive and keep my family going and everything and keep my friends going and try to do something so that this world will be peaceful. That is the most ambitious and the most difficult thing, but I'm there trying to do it. – Yoko Ono

