

Chapter 42 – Circulation

Gas exchange overview:

Ventilation --> Diffusion of respiratory surface --> Circulation --> Diffusion of tissues --> Cellular respiration

To maximize gas exchange

1. Large surface area
2. Thin respiratory surface
3. Large pressure gradient

Gas exchange organs

- Gills – countercurrent exchange, opposite directions
 - Insect trachea
 - Lungs – Alveoli, tremendous surface area and loaded with capillaries
-
- ❖ Breathing is regulated by CO₂ levels
 - Left side of the heart has the thicker ventricle which is the side that focuses on the rest of the body while the right side of the heart has a thinner ventricle which only pumps blood to the heart

2 circuits

1. Pulmonary – to the lungs, away from the heart
 - Pulmonary artery – deoxygenated, carries blood to the lungs
 - Pulmonary vein – oxygenated, carries blood from lungs to the heart
2. Systemic – to the rest of the body, oxygenated

Capillary Exchange (How plasma exits and enters the capillaries)

1. Blood pressure
2. Osmotic pressure

How does the heart work?

- Myogenic – The heart generates its own electrical impulse
- Gap Junctions – keeps the whole heart beating as a coordinated unit due to the ions being released

Blood components

- Hemoglobin – carries oxygen and releases oxygen in our muscles, brain, etc.
- ❖ CO₂ is transported in blood by Bicarbonate ions

Answer Section 42 Circulation

William C. Aird



Answer Section 42 Circulation:

Eventually, you will definitely discover a supplementary experience and execution by spending more cash. yet when? reach you assume that you require to get those every needs subsequent to having significantly cash? Why dont you attempt to get something basic in the beginning? Thats something that will lead you to comprehend even more roughly speaking the globe, experience, some places, in imitation of history, amusement, and a lot more?

It is your definitely own become old to perform reviewing habit. in the midst of guides you could enjoy now is **Answer Section 42 Circulation** below.

<https://legacy.tortoisemedia.com/public/virtual-library/Documents/photography%20tutorial%20tips.pdf>

Table of Contents Answer Section 42 Circulation

1. Understanding the eBook Answer Section 42 Circulation
 - The Rise of Digital Reading Answer Section 42 Circulation
 - Advantages of eBooks Over Traditional Books
2. Identifying Answer Section 42 Circulation
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Answer Section 42 Circulation
 - User-Friendly Interface
4. Exploring eBook Recommendations from Answer Section 42 Circulation
 - Personalized Recommendations
 - Answer Section 42 Circulation User Reviews and Ratings
 - Answer Section 42 Circulation and Bestseller Lists
5. Accessing Answer Section 42 Circulation Free and Paid eBooks

- Answer Section 42 Circulation Public Domain eBooks
- Answer Section 42 Circulation eBook Subscription Services
- Answer Section 42 Circulation Budget-Friendly Options
- 6. Navigating Answer Section 42 Circulation eBook Formats
 - ePub, PDF, MOBI, and More
 - Answer Section 42 Circulation Compatibility with Devices
 - Answer Section 42 Circulation Enhanced eBook Features
- 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Answer Section 42 Circulation
 - Highlighting and Note-Taking Answer Section 42 Circulation
 - Interactive Elements Answer Section 42 Circulation
- 8. Staying Engaged with Answer Section 42 Circulation
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Answer Section 42 Circulation
- 9. Balancing eBooks and Physical Books Answer Section 42 Circulation
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Answer Section 42 Circulation
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Answer Section 42 Circulation
 - Setting Reading Goals Answer Section 42 Circulation
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Answer Section 42 Circulation
 - Fact-Checking eBook Content of Answer Section 42 Circulation
 - Distinguishing Credible Sources
- 13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development

- Exploring Educational eBooks

14. Embracing eBook Trends

- Integration of Multimedia Elements
- Interactive and Gamified eBooks

Answer Section 42 Circulation Introduction

Answer Section 42 Circulation Offers over 60,000 free eBooks, including many classics that are in the public domain. Open Library: Provides access to over 1 million free eBooks, including classic literature and contemporary works. Answer Section 42 Circulation Offers a vast collection of books, some of which are available for free as PDF downloads, particularly older books in the public domain. Answer Section 42 Circulation : This website hosts a vast collection of scientific articles, books, and textbooks. While it operates in a legal gray area due to copyright issues, its a popular resource for finding various publications. Internet Archive for Answer Section 42 Circulation : Has an extensive collection of digital content, including books, articles, videos, and more. It has a massive library of free downloadable books. Free-eBooks Answer Section 42 Circulation Offers a diverse range of free eBooks across various genres. Answer Section 42 Circulation Focuses mainly on educational books, textbooks, and business books. It offers free PDF downloads for educational purposes. Answer Section 42 Circulation Provides a large selection of free eBooks in different genres, which are available for download in various formats, including PDF. Finding specific Answer Section 42 Circulation, especially related to Answer Section 42 Circulation, might be challenging as theyre often artistic creations rather than practical blueprints. However, you can explore the following steps to search for or create your own Online Searches: Look for websites, forums, or blogs dedicated to Answer Section 42 Circulation, Sometimes enthusiasts share their designs or concepts in PDF format. Books and Magazines Some Answer Section 42 Circulation books or magazines might include. Look for these in online stores or libraries. Remember that while Answer Section 42 Circulation, sharing copyrighted material without permission is not legal. Always ensure youre either creating your own or obtaining them from legitimate sources that allow sharing and downloading. Library Check if your local library offers eBook lending services. Many libraries have digital catalogs where you can borrow Answer Section 42 Circulation eBooks for free, including popular titles. Online Retailers: Websites like Amazon, Google Books, or Apple Books often sell eBooks. Sometimes, authors or publishers offer promotions or free periods for certain books. Authors Website Occasionally, authors provide excerpts or short stories for free on their websites. While this might not be the Answer Section 42 Circulation full book , it can give you a taste of the authors writing style. Subscription Services Platforms like Kindle Unlimited or Scribd offer subscription-based access to a wide range of Answer Section 42 Circulation eBooks, including some popular titles.

FAQs About Answer Section 42 Circulation Books

1. Where can I buy Answer Section 42 Circulation books? Bookstores: Physical bookstores like Barnes & Noble, Waterstones, and independent local stores. Online Retailers: Amazon, Book Depository, and various online bookstores offer a wide range of books in physical and digital formats.
2. What are the different book formats available? Hardcover: Sturdy and durable, usually more expensive. Paperback: Cheaper, lighter, and more portable than hardcovers. E-books: Digital books available for e-readers like Kindle or software like Apple Books, Kindle, and Google Play Books.
3. How do I choose a Answer Section 42 Circulation book to read? Genres: Consider the genre you enjoy (fiction, non-fiction, mystery, sci-fi, etc.). Recommendations: Ask friends, join book clubs, or explore online reviews and recommendations. Author: If you like a particular author, you might enjoy more of their work.
4. How do I take care of Answer Section 42 Circulation books? Storage: Keep them away from direct sunlight and in a dry environment. Handling: Avoid folding pages, use bookmarks, and handle them with clean hands. Cleaning: Gently dust the covers and pages occasionally.
5. Can I borrow books without buying them? Public Libraries: Local libraries offer a wide range of books for borrowing. Book Swaps: Community book exchanges or online platforms where people exchange books.
6. How can I track my reading progress or manage my book collection? Book Tracking Apps: Goodreads, LibraryThing, and Book Catalogue are popular apps for tracking your reading progress and managing book collections. Spreadsheets: You can create your own spreadsheet to track books read, ratings, and other details.
7. What are Answer Section 42 Circulation audiobooks, and where can I find them? Audiobooks: Audio recordings of books, perfect for listening while commuting or multitasking. Platforms: Audible, LibriVox, and Google Play Books offer a wide selection of audiobooks.
8. How do I support authors or the book industry? Buy Books: Purchase books from authors or independent bookstores. Reviews: Leave reviews on platforms like Goodreads or Amazon. Promotion: Share your favorite books on social media or recommend them to friends.
9. Are there book clubs or reading communities I can join? Local Clubs: Check for local book clubs in libraries or community centers. Online Communities: Platforms like Goodreads have virtual book clubs and discussion groups.
10. Can I read Answer Section 42 Circulation books for free? Public Domain Books: Many classic books are available for free as they're in the public domain. Free E-books: Some websites offer free e-books legally, like Project Gutenberg or Open Library.

2 new mojar choti boi 2023 01 13 the first graphic history of sex chronicles sexuality and human intimacy through the ages from our primate pasts to our robotic futures humans have

new mojar choti boi oldshit fatwreck com - May 03 2022

sep 7 2023 may 1st 2018 bangla choti sosur bouma bangla choti boi www bangla and kolkata ma chele sosur bouma new mojar mojar choti com video hindi writer of the story of

new mojar choti boi virtualevents straumann com - Apr 02 2022

hello every body welcome to our mojar tv shyamoli welcome to our channel this is a entertainment new comedy video new shot film love story new bangla natok comedy video

mojar tv shyamoli youtube - Mar 01 2022

new mojar choti boi 1 6 downloaded from uniport edu ng on march 24 2023 by guest new mojar choti boi getting the books new mojar choti boi now is not type of challenging means

bangla choti golpo boi bangla chodar golpo - Apr 14 2023

apr 17 2023 bangla choti golpo for choti lovers ঐ ঐ ঐ ঐ ঐ bangla choti kahini ঐ ঐ ঐ ঐ ঐ bangla panu galpo

new mojar choti boi store spiralny - Nov 09 2022

new mojar choti boi pdf introduction new mojar choti boi pdf download only the stand stephen king 2011 a monumentally devastating plague leaves only a few survivors

new mojar choti boi pdf digitalworkgroup skidmore edu - Oct 08 2022

jun 8 2023 connections you may not be bewildered to enjoy every book collections new mojar choti boi that we will undoubtedly offer new mojar choti boi is at hand in our literature

new mojar choti boi wrbb neu edu - Jun 04 2022

new mojar choti boi downloaded from oldshit fatwreck com koch ahmed golosa createspace the sixteen short stories collected here were written between 1891 and 1917 by

ঐ - Sep 19 2023

ঐ best 50 bangla new choti golpo ঐ ঐ ঐ ঐ ঐ ঐ ঐ ঐ ঐ ঐ ঐ

choti boi fill online printable fillable blank pdffiller - Aug 06 2022

we present new mojar choti boi and numerous books collections from fictions to scientific research in any way along with them is this new mojar choti boi that can be your partner

all bangla choti golpo story 2023 choti69 com - Jul 17 2023

ঐ bangla choti golpo ঐ ঐ ঐ ঐ ঐ ঐ ঐ ঐ ঐ ঐ ঐ ঐ ঐ bangla choti golpo ঐ ঐ

new mojar choti boi uniport edu ng - Dec 30 2021

new mojar choti boi 1 new mojar choti boi recognizing the pretentiousness ways to get this ebook new mojar choti boi is additionally useful you have remained in right site to start

bangla choti golpo bangla choti golpo for choti lovers - Mar 13 2023

2 new mojar choti boi 2022 09 24 his total oeuvre add a new magnificent dimension to it and offer us a glimpse into the mystique of the creative anxiety that could have

new mojar choti boi help environment harvard edu - Jul 05 2022

new mojar choti boi 1 new mojar choti boi thank you for reading new mojar choti boi as you may know people have look hundreds times for their chosen books like this new mojar

new mojar choti boi wrbb neu edu - Jan 31 2022

mar 19 2023 new mojar choti boi 1 1 downloaded from uniport edu ng on march 19 2023 by guest new mojar choti boi as recognized adventure as competently as experience more or

new mojar choti boi cares cariloop com - Jan 11 2023

jul 10 2023 new mojar choti boi 2 7 downloaded from uniport edu ng on july 10 2023 by guest the story of sex philippe brenot 2017 10 31 the first graphic history of sex chronicles

□ □ □ □ □ □ □ □ medium - Aug 18 2023

apr 17 2022 bangla choti 8 min read read writing from □ □ □ □ □ □ □ □ on medium finest bangla choti golpo collection every day □ □ □ □ □ □ □ □ and

□ □ □ □ □ □ □ □ *bangla choti golpo* - May 15 2023

new bangla choti golpo new bangla choti kahini new hot bangla choti pacha choda paribarik choti golpo pod marar golpo poripokko chodar golpo romantic choti golpo sali ke

new mojar choti boi wrbb neu edu - Nov 28 2021

new mojar choti boi 1 7 downloaded from uniport edu ng on april 24 2023 by guest new mojar choti boi yeah reviewing a ebook new mojar choti boi could mount up your near contacts

m13 4 envso speng tz0 xx m download only - Apr 30 2022

web jan 26 2023 collections m13 4 envso spi eng tz0 xx that we will definitely offer it is not in relation to the costs its very nearly what you craving currently this m13 4 envso spi eng

m13 4 biolo sp1 eng tz0 secure4 khronos - Aug 03 2022

web jun 11 2023 m13 4 biolo sp1 eng tz0 m13 4 biolo sp1 eng tz0 m13 2 abeng sp1 eng tz0 xx t joomlaxe com ib dp economics past year papers weebly m13 4 envso

standard detayı tse - Mar 30 2022

web en iso 15613 2004 uluslararası karşılıklar din en iso 15613 eqv bs en iso 15613 eqv nf a89 056 nf en iso 15613 eqv iso 15613 eqv en iso 15613 eqv

november 2020 environmental systems and societies standard - May 12 2023

web 6 n20 4 envso sp1 eng tz0 xx m 3 a strongest hurricane in dominica s history fastest maximum wind speeds wind speed of over 250 km hr and therefore most

mitsubishi electric corp m38513 series datasheets chipdocs - Oct 25 2021

web m38513e4fp single chip 8 bit cmos microcomputer prom 16k bytes ram 512 bytes one time prom version in 42 pin plastic ssop package operational temperature

m13 4 biolo sp1 eng tz0 reserve lasd org - Feb 26 2022

web aug 15 2023 m13 4 envso sp1 eng tz0 xx m this markscheme is confidential and for the exclusive use of examiners in this examination session it is the property of the

m13 4 envso sp2 eng tz1 xx full pdf - Jul 02 2022

web m13 4 envso sp1 eng tz0 xx lia erc gov download and read m13 4 envso sp2 eng m13 4 envso spi eng tz0 xx free ebooks in pdf format factoring using the quadratic formula root

may 2018 environmental systems and societies standard level - Dec 07 2022

web 3 m18 4 envso sp2 eng tz0 xx m section a 1 a outline the evidence that co 2 acts as a greenhouse gas 1 co 2 absorbs outgoing longwave ir radiation heat

november 2019 environmental systems and societies standard - Jul 14 2023

web 5 n19 4 envso sp1 eng tz0 xx m c 6000 2000 100 66 7 67 6000 6300 2000 100 68 2 68 6300 1 max accept answers between 66 67 and

may 2019 environmental systems and societies standard level - Aug 15 2023

web 5 m19 4 envso sp1 eng tz0 xx m 5 reduction in sharks marlin predators of the tuna due to reduction in food source increase in micronekton predatory fish prey of

may 2017 environmental systems and societies standard level - Feb 09 2023

web brazil is at stage 3 and is moving to stage 4 will lead to a more stable population equal proportion in each age group birth rates are equal to death rates 3 max

environmental systems and societies paper 1 sl markscheme - Nov 06 2022

web m21 4 envso sp1 eng tz0 xx m 10 pages markscheme may 2021 environmental systems and societies standard level paper 1 international baccalaureate

may 2018 environmental systems and societies standard level - Apr 11 2023

web against 4 max use of alternative farming methods such as intensive farming could lead to soil degradation loss of nutrients from soil increase in runoff containing pesticides nutrients

markscheme oldmillhs org - Mar 10 2023

web may 15 2015 6 m11 4 envso sp1 eng tz0 xx m 1 a brazil pyramid y ethiopia pyramid x japan pyramid z 1 max all three responses required for 1 b pyramid x

m13 4 envso sp1 eng tz0 xx bespoke cityam - Jun 01 2022

web the boxes above full online m13 4 envso sp1 eng tz0 xx m m13 4 envso sp1 eng tz0 xx m pursuing for m13 4 envso sp1 eng tz0 xx m full online do you really need this

m13 4 envso sp1 eng tz0 xx - Oct 05 2022

web m13 4 envso sp1 eng tz0 xx m this markscheme is confidential and for the exclusive use of examiners in this examination session it is the property of the international

m13 4 biolo sp1 eng tz0 flowboxing com - Jan 28 2022

web jun 22 2023 m13 biolo sp1 spa tz0 xx m13 biolo sp1 spa tz0 xx in this site is not the similar as a solu m13 4 envso sp1 eng tz0 ms answer read and download m12 4

november 2015 environmental systems and societies standard - Sep 04 2022

web ecological footprints are the inverse of carrying capacity 4 max b example data from world bank 2013 to help marking team australia s electricity production is mostly from

m13 4 biolo sp1 eng tz0 - Dec 27 2021

web m13 4 biolo sp1 eng tz0 m13 4 biolo sp1 eng tz0 m13 2 abeng hp1 eng tz0 xx t joomlaxe com n14 5 matme sp2 eng tz0 xxm kvaser de m13 biolo sp1 spa tz0 xx

may 2016 environmental systems and societies standard level - Jun 13 2023

web 9 m16 4 envso sp1 eng tz0 xx m 4 a i usa has a higher consumption that uses more resources than china usa uses more resources energy electricity thus more

november 2016 environmental systems and societies standard - Jan 08 2023

web 4 max 2 max for identifying 2 factors and 2 max for explanation of these factors do not accept volcanic eruption happened earlier in krakatau or difference in

iso 404 2013 amd 1 2022 - Nov 25 2021

web final text received or fdis registered for formal approval 50 20 2022 09 13 proof sent to secretariat or fdis ballot initiated 8 weeks

m13 4 biolo sp1 eng tz0 splendor bcca - Sep 23 2021

web jun 18 2023 you could rapidly obtain this m13 4 biolo sp1 eng tz0 after securing special it will certainly misuse the duration m13 4 biolo sp3 spa tz0 xx athies de m12

murtagh general practice 8th edition mheducation co uk - Mar 20 2022

web nov 30 2021 clare murtagh is a general practitioner in sydney she holds postgraduate qualifications in dermatology medical education and sexual and reproductive health sold worldwide and translated into 13 languages john murtagh s general practice is widely recognised as the gold standard reference for general practice and primary health care

murtagh general practice 8th edition amazon com - Sep 06 2023

web jul 8 2023 sold worldwide and translated into 13 languages john murtagh s general practice is widely recognised as the gold standard reference for general practice and primary health care its emphasis on the importance of clinical reasoning early diagnosis and treatment makes this the essential reference for medical students trainees and

racgp college approved publications - Oct 27 2022

web member discounts racgp members can save up to 20 on racgp clinical guidelines and practice resources australian medicines handbook products and john murtagh publications to place an order please select the order this publication button or call the membership contact centre on 1800 472 247

general practice by john murtagh goodreads - Apr 20 2022

web jul 1 1994 john murtagh 4 08 38 ratings5 reviews everything you need in the format you want with new content improved navigation and a full color presentation the fourth edition of this seminal work in general practice is the essential resource for practitioners as well as students readers will find over 100 full color clinical photos six new

murtagh general practice by john murtagh m d goodreads - Dec 29 2022

web jul 8 2023 sold worldwide and translated into 13 languages john murtagh s general practice is widely recognised as the gold standard reference for general practice and primary health care its emphasis on the importance of clinical reasoning early diagnosis and treatment makes this the essential reference for medical students trainees and

murtagh s general practice 8th edition plus proquest - Jun 22 2022

web murtagh s general practice companion handbook 8th edition authors john murtagh clare murtagh sydney nsw mcgraw hill education australia 2021 paperback isbn 9781743768266 i was looking forward to reading the latest edition of john murtaghs work perhaps the foundation stone for clinical general practice in australia and beyond

general practice murtagh john amazon com tr kitap - Jun 03 2023

web general practice murtagh john amazon com tr kitap Çerez tercihlerinizi seçin Çerez bildirimimizde ayrıntılı şekilde açıklandığı üzere alışveriş yapmanızı sağlamak alışveriş deneyiminizi iyileştirmek ve hizmetlerimizi sunmak için gerekli olan

çerezleri ve benzer araçları kullanırız

ebook murtagh s general practice google books - Apr 01 2023

web oct 6 2018 john murtagh s general practice is the gold standard reference for established doctors and new graduates and students in the fields of general practice and primary health care this new edition is completely revised and expanded including new diagnostic strategies for common presenting problems significant updates on sexual

murtagh collection medicine libguides at university of otago - Feb 28 2023

web oct 26 2023 john murtagh s general practice companion handbook 7 e with new co author dr clare murtagh brings an early year doctor perspective to the resource murtagh s practice tips 8 e is a practical comprehensive resource for busy gps it includes simple clear diagrams and step by step instructions to guide them in the

[murtagh general practice 8th edition google books](#) - Aug 25 2022

web nov 30 2021 sold worldwide and translated into 13 languages john murtagh s general practice is widely recognised as the gold standard reference for general practice and primary health care its emphasis on the importance of clinical reasoning early diagnosis and treatment makes this the essential reference for medical students trainees and

[general practice murtagh john free download borrow and](#) - Aug 05 2023

web general practice by murtagh john publication date 1999 topics family medicine physicians general practice medicine family practice physicians family primary health care me decine familiale soins de sante primaires omnipraticiens publisher london mcgraw hill collection inlibrary printdisabled internetarchivebooks contributor

john murtagh s general practice collection fijigp com - Jul 24 2022

web murtagh s general practice includes updates to sexual health and cervical cancer screening mental health diagnosis and treatment and chronic disorders and forms the backbone of this digital collection available in the john murtagh s general practice collection john murtagh s general practice 7th edition and companion handbook

general practice companion handbook murtagh john free - Sep 25 2022

web murtagh john publication date 2000 topics summary of general practice 2nd ed pref access restricted item true addeddate 2021 01 16 16 01 31 boxid ia40040602 camera sony alpha a6300 control collection set printdisabled external identifier urn oclc record 1244789252

preface john murtagh s general practice 8th edition murtagh - Jan 30 2023

web the discipline of general practice has become complex expansive and challenging but nevertheless remains manageable fascinating and rewarding john murtagh s general practice attempts to address the issue of the base of knowledge and skills required in modern general practice some of the basics of primary healthcare remain the same

murtagh s general practice 7e mcgraw hill medical - May 22 2022

web read this chapter of murtagh s general practice 7e online now exclusively on murtagh collection murtagh collection is a subscription based resource from mcgraw hill that features trusted content from the best minds in medicine

chronic obstructive pulmonary disease john murtagh s general practice - Feb 16 2022

web nov 4 2023 read chapter 74 of john murtagh s general practice 8th edition online now exclusively on murtagh collection murtagh collection is a subscription based resource from mcgraw hill that features trusted content from the best minds in medicine

john murtagh s general practice 8th edition murtagh collection - Jul 04 2023

web john murtagh s general practice 8th edition john murtagh jill rosenblatt justin coleman clare murtagh part 3 presenting symptoms and problem solving in general practice part 4 mental health part 5 chronic disease management part 6 child and adolescent health part 7 women s health part 8 men s health part 9 sexual

murtagh s general practice 5th ed pdf ta pdf - Oct 07 2023

web mar 4 2021 enquiries should be made to the publisher via mcgraw hill com au or marked for the attention of the permissions editor at the address below national library of australia cataloguing in publication data author murtagh john 1936 title general practice john murtagh edition 5th ed isbn 9780070285385 hbk notes includes

general practice john murtagh google books - May 02 2023

web general practice john murtagh 1994 family medicine 1107 pages textbook for students recent graduates and general medical practitioners the focus is on the basics of medical principles and management it details the diagnostic and therapeutic procedures and clinical skills required in general practice

racgp book review murtaghs general practice 8th ed - Nov 27 2022

web hardback isbn 9781743768235 murtagh s general practice companion handbook 8th edition authors john murtagh clare murtagh sydney nsw mcgraw hill education australia 2021 paperback isbn 9781743768266 i was looking forward to reading the latest edition of john murtagh s work perhaps the foundation stone for clinical general