



APPS IN ORTHODONTICS: A REVIEW

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ABSTRACT

The development of smartphones has created new opportunities to integrate mobile technology into daily clinical practice and they are of much more use than just texting messages or making phone calls. An “App” is a specialized program downloaded onto the mobile device which then connects an internet portal. The portability, easy update, fast speed and easy access of smartphones has served as a quick reference tool. The widespread use of smartphones has led the medical and dental communities to embrace this technology and it is rapidly changing our personal and professional lives. There are various Apps which are currently available in Google as well as Apple play store for the orthodontic patients as well as the clinicians and the play store also provides a brief description about the App, including the cost. The use of these technologies can be a boon both for the orthodontists and the patients as they help in treatment planning as well as in enhancing the treatment outcome. Apps help the patient in reminding their appointment and tracking their treatment progress, simultaneously it helps the clinician to get more organized. Smartphones have made it easier and convenient for both the clinician and patient to access orthodontically relevant information at the click of a button. Many dental or orthodontic offices have started to take advantage of the mobile “apps” that make managing a dental practice easier.

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INTRODUCTION

In this technological generation, as life gets busier day by day the use of smartphones and tablets have made life simple.¹ The last few decades have shown a phenomenal rise in our utilization of new technology which has transformed both our personal and professional lives. Smartphones have provided routine access to information in ways that were previously not possible, and this also includes the area of medical and dental education.² When the “app store” was launched in 2008, it acted as a “magic glue” that would connect people to content through software. Today smartphones are like handheld computers and are an indispensable technological tool.³ A smartphone is not just a mobile telephone but it also has additional computing capabilities. The development of smartphones have created new opportunities to integrate mobile technology into daily clinical practice. They are of much more use than just texting messages or making phone calls. Smartphone is capable of downloading various applications that are not associated with a cellular phone.⁴ The word “App” is short form of “Application”. An App is a specialized program downloaded onto the mobile device which then connects via internet portal.⁵

Owing to their portability, easy update, fast speed and easy access, smartphones serve as a quick reference tool. The widespread usage of smartphones, led the medical and dental communities to embrace this technology.⁶ Earlier Apps were introduced for various purposes such as Daily useful apps, Gaming apps, Social networking apps- Facebook, Twitter, Communication apps- Whatsapp, Instagram, Lifestyle apps, etc. Dental App now has been one of the fastest growing category that mainly includes various programs designed specifically for Orthodontics. There are millions of Apps introduced in Google and Apple play stores for orthodontic patients as well as the clinicians.⁷ The play store provides the brief description about the App, including the cost. They help us in getting more organized, ensure safety and better information with just a click. Apps help patient in reminding their appointments, tracking their treatment progress and other various information. Apps help clinician to perform various model/cast analysis³ and cephalometric analysis. The use of these technologies can be a boon to both the orthodontists as well as the patients. They help in treatment planning as well as enhancing the treatment outcome.⁸ Therefore, Orthodontic information is no longer restricted through just log-ins.

Classification

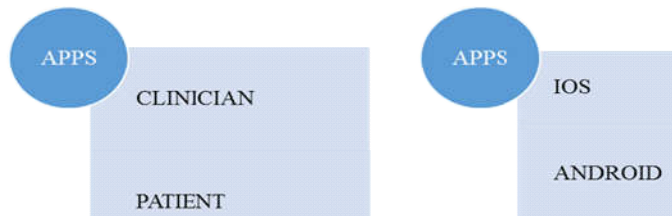
Apps are broadly available in two most popular operating systems of smartphones – Android and iPhone. In

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Orthodontics, they can be studied under headings: Apps for Orthodontists / Clinicians and Apps for Patients.

Most of the applications are free whereas, some of them are paid. In order to use them, they have to be installed on the device. Many smartphones have pre-installed Apps when we buy them. They can be easily installed into smartphone using Google Play Store for Android users and App Store for iPhone users. Each App is built to run on certain type of device for e.g. Apps made for iPhone cannot be used on an Android device.



How to Get App on Your Smartphone?

Apps on Android can be downloaded from “Play Store”.^{9,10} It is safe and trustworthy. To download an App we need to sign-in with our Google account and also accept the terms and conditions related to it. Once we are done with the login part, one can search for a particular App. Before installing any App, one should read the complete description about the App, ratings and reviews given below the App icon.

For Apps on iPhone, the installation process is just the same as for Android, the only difference is that instead of Play Store you need to download an App from App Store which can be logged-in using Apple Id.

For Clinician

Purpose	App	Cost	Description
Orthodontic news	Orthotown	Free	New and active topics and cases of the day
Orthodontic publication	Orthodontic Exam Pro	Paid	For those who want face exams and take exams
	American Journal of Orthodontics & Dentofacial Orthopedics	Free	American Journal of Orthodontics and Dentofacial Orthopedics
	The Progressive Orthodontist	Free	Journal on running an orthodontic practice
	DGKFO 2011	Free	German Orthodontic Society meeting app
	NESO 2011	Free	North-eastern Society of Orthodontics meeting app
Diagnosis	Intl Asso For Orthodontics	Free	Provides access to the International Journal of Orthodontics, a quarterly peer reviewed journal.
	Dental Press	Free	Dental Press Orthodontics and Facial Orthopedics Journal
	iModel Analysis	Free	Orthodontic model analyzer
	ShareSmilez	Free	Integrates with your social media with patients
	Virtual Orthodontist	Free	Planning the treatment of the patient
	iModel analysis 2	Free	Planning the treatment of the patient
	SimplyCeph	Paid	Allows to maintain patient records with Cephalometric analysis, photographic analysis and 3D model analysis.
Orthodontic Product	Bolton Calc	Paid	Tooth-width ratio analyzer
	SmileCeph International	Paid	Cephalometric analyzer
	Wired Orthodontics	Free	Orthodontic laboratory and manufacturer app
	Dentaurum Dental Products	Free	Offer catalogues for the field of orthodontics and other fields
	Carriere Ortho 3D	Free	Provides animation of the Carrieredistaliser and assists in patient education about Carriere products.
Practice Management	AO Roudcare	Free	Provides easiest way to order American orthodontics products online with DHL shipping service
	Dental Appoint Manager	Free	Allows to save patient information , book appointments and reminds to send mail to patient
	FAQ Fix	Free	Information on kit for positioning brackets

Advantages

- Portability
- Quick access to information on the internet
- Easy updates
- Speedy and less time consuming
- Easy communication via mails, etc



- Access to multimedia resource
- Information Management: Individual can easily access various information using their mobile phones, which includes online textbooks and online lectures. Google and Wikipedia are among the most popular sources used for accessing medical journal websites and getting medical news online.
- Communication: The communication gap between peers, teachers and other members of the healthcare team is reduced as it becomes easy for the clinician to contact patient using email, telephone, text messages and on social media as well.
- Time management : clinician can easily manage their time, by accessing schedules and calendars
- Validity of the information

Drawbacks

- Downloadable data, therefore can be stored and used in future.
- Superficial learning: devices might enable learners to access information so rapidly that it may inhibit the internalisation of knowledge which is a traditional

part of medical education, leading to a potential for ‘superficial learning’.

For Patient

Purpose	App	Cost	Description
Patient Education	Learn about Braces	Free	Educates the patient about malocclusion and how braces can benefit them
	Straighten Me	Free	Information on how to treat an orthodontic emergency
	iBrace Help	Free	Information on braces, their care and wear
	Invisible Braces Scan	Free	Checks whether patient is suitable for invisible braces
	Alignermeter	Free	Checks whether patient is suitable for invisible braces
	Braces Booth Pro	Free	helps the patients to choose from different braces options and also projects the image of the patient with the different types of braces
Patient Reminder	BraceMate	Free	helps in choosing the color of modules and/or different types of brackets
	Align On Time	Free	Allows patient and clinician to generate aligner change schedule
	Align Remind	Free	during active orthodontic treatment it provides a reminder for aligner wear
	Ortho tempo	Free	offers a prescheduled reminder service that increases compliance resulting in better appliance wear and thereby enhancing the success of orthodontic treatment.
	Brace Accelerator	Paid	Reminds patient to wear and change their elastics
	Rubberband Reminder	Paid	Reminds patient to wear and change their elastics
Patient Progress Tracking	Smile Mission	Paid	Reminds patients to change their aligners
	Smile-tastic	Paid	reminder for keeping good oral hygiene while braces wear, reminder for elastic wearing
	WAMBCO Orthodontic Treatment	Free	Tracks treatment progress
	The Invisible Orthodontist	Free	Tracks treatment progress for invisible braces
	3M Incognito	Free	Information on the Incognito system
	Sorriso Ortho	Free	Ability to customize the App for each orthodontics office
	Treatment App	Free	Tracks how long the treatment process will take
My Braces	Paid	Progress tracker for orthodontic patients using a picture slider	

- Trusting information sources: clinician should navigate the information available on the devices, how they should find ‘good applications’, and how they would know if the information provided was of high quality.
- Distraction: causing distraction from normal activities of learners and physicians in classrooms and clinical settings.
- Need for a professional.
- Proper marketing: to ensure it reaches masses.
- Need to be updated from time to time.
- Drains battery.
- Needs storage space, thus phone should have sufficient memory.
- Few Apps require personal information prior to installation.

CONCLUSION

Current perspectives are, with the phenomenal rise in our utilization of newer technology smartphones may act as mini virtual offices where patient is able to track the progress of his/her treatment on their smartphones. It makes management easier and acts as an excellent marketing tool. Still many Apps are required in terms of treatment planning and visualizing treatment in 3D aspect. They have got a power to make life better as they ensure safe and guaranteed online information. These Apps keep us more organized and thus management is easier, we just need to use it smartly and wisely.

Creating our own App can be an excellent marketing tool as we can directly get in touch with our patients and take their feedback and make improvements. Although iPhone continues to rise in popularity amongst consumers, mobile app developers often face certain challenges because of restrictions set by Apple. In contrast, Android makes it much easier when it comes to create rich apps. Thus, there is still a need for certain apps that can be used on multiple platforms and is both iPhone and Android friendly.

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